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United States
Department of
Agriculture

Forest Service

Tongass
National
Forest
R10-MB-433b

August 2001



Woodpecker Project Area

Final Environmental Impact Statement



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Abbreviations and Common Acronyms

ANILCA	Alaska National Interest Lands Conservation Act
ASQ	Allowable Sale Quantity
BMPs	Best Management Practices
CCF	Hundred Cubic Feet
CEQ	Council on Environmental Quality
DEIS	Draft Environmental Impact Statement
FEIS	Final Environmental Impact Statement
Forest Plan	Tongass Land and Resource Management Plan, 1997
GIS	Geographic Information System
IDT	Interdisciplinary Team
IRA	Inventoried Roadless Area
LTF	Log Transfer Facility
LUD	Land Use Designation
MBF	Thousand Board Feet
MIS	Management Indicator Species
MMBF	Million Board Feet
MMCF	Million Cubic Feet
NEPA	National Environmental Policy Act
NFMA	National Forest Management Act
NIC	Non-interchangeable Component
OGR	Old-Growth Habitat Reserve
RMO	Road Management Objective
ROS	Recreation Opportunity Spectrum
TTRA	Tongass Timber Reform Act
VCU	Value Comparison Unit
VQO	Visual Quality Objective
WAA	Wildlife Analysis Area



United States
Department of
Agriculture

Forest
Service

Alaska Region
Tongass National Forest

648 Mission Street
Ketchikan, Alaska 99901
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File Code: 1950

Date: August 15, 2001

Dear Reader:

Here is your copy of the Record of Decision (ROD) and the Final Environmental Impact Statement (FEIS) for the Woodpecker Project Area on the Petersburg Ranger District, Tongass National Forest.

Additional copies of this Final EIS are available for review at Forest Service Offices throughout the Tongass. If you would like to request additional copies to be sent to you, contact the Petersburg Ranger District at 907-772-3871.

The ROD documents my final decision on the Selected Alternative, and the facts considered in reaching the decision. The effective date of implementation for the decision and the Notice of Rights of Appeal are also specified in the ROD.

I want to thank those of you who took the time to review and comment on the Draft Environmental Impact Statement. Your interest in the management of the Tongass National Forest is appreciated.

As the Forest Supervisor, I am responsible for this decision. Please direct any correspondence or requests for additional copies to Cynthia Sever, Woodpecker Project Team Leader, P.O. Box 1328, Petersburg, Alaska 99833, or to the e-mail address: csever@fs.fed.us; or call (907) 772-3871.

Sincerely,

THOMAS PUCHLERZ
Forest Supervisor



Woodpecker Project Area

Final Environmental Impact Statement

Tongass National Forest USDA Forest Service Alaska Region

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648 Mission Street
Ketchikan, Alaska 99901

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Tongass National Forest

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Abstract: The Tongass National Forest proposes to make timber available for harvest using a variety of harvest treatments, develop a road management strategy, conduct watershed restoration projects, develop several dispersed camping/picnic sites, and improve parking turnouts in the Woodpecker Project Area near Petersburg, Alaska on Mitkof Island.

Woodstock Project Area

County of Washington and
District of Columbia

County of Washington and
District of Columbia
Department of Planning
Office of the Deputy Mayor
for Economic Development

Office of the Deputy Mayor
for Economic Development

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Introduction to the Woodpecker Project Area Environmental Impact Statement

The Forest Service has prepared this environmental impact statement (EIS) to analyze the potential effects of timber harvest, recreation projects, and watershed improvements in the Woodpecker Project Area in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations.

The Woodpecker Project Area is located on Mitkof Island, approximately 27 miles south of Petersburg, Alaska. Petersburg is located approximately 120 miles south of Juneau and 110 miles north of Ketchikan. Mitkof Island is one of many islands that comprise the Alexander Archipelago in Southeast Alaska. The project area is approximately 33,000 acres in size. This EIS discloses the direct, indirect, and cumulative environmental impacts and any irreversible or irretrievable commitment of resources that would result from the proposed action and alternatives.

This EIS is prepared according to the format established by Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508). See Figure i-1. Chapter 1 explains the purpose and need for the proposed action. It includes a discussion of how the project relates to the Tongass Land and Resource Management Plan, 1997, as amended, hereby referred to in this document as the Forest Plan, and identifies the significant issues driving the EIS analysis. Chapter 2 describes and compares the alternatives and summarizes the significant issues and environmental effects. Chapter 3 describes the ecological and social environments potentially affected by the alternatives, and discloses what potential effects are anticipated. Chapter 4 contains the list of interdisciplinary team members, the EIS distribution list, literature cited, and a glossary.

Appendix A provides additional information on the reasons to schedule the project at this time. Appendix B contains maps and narratives of all the proposed activities, including activity cards (unit, road, recreation, and watershed improvement cards). Appendix C includes written

Introduction

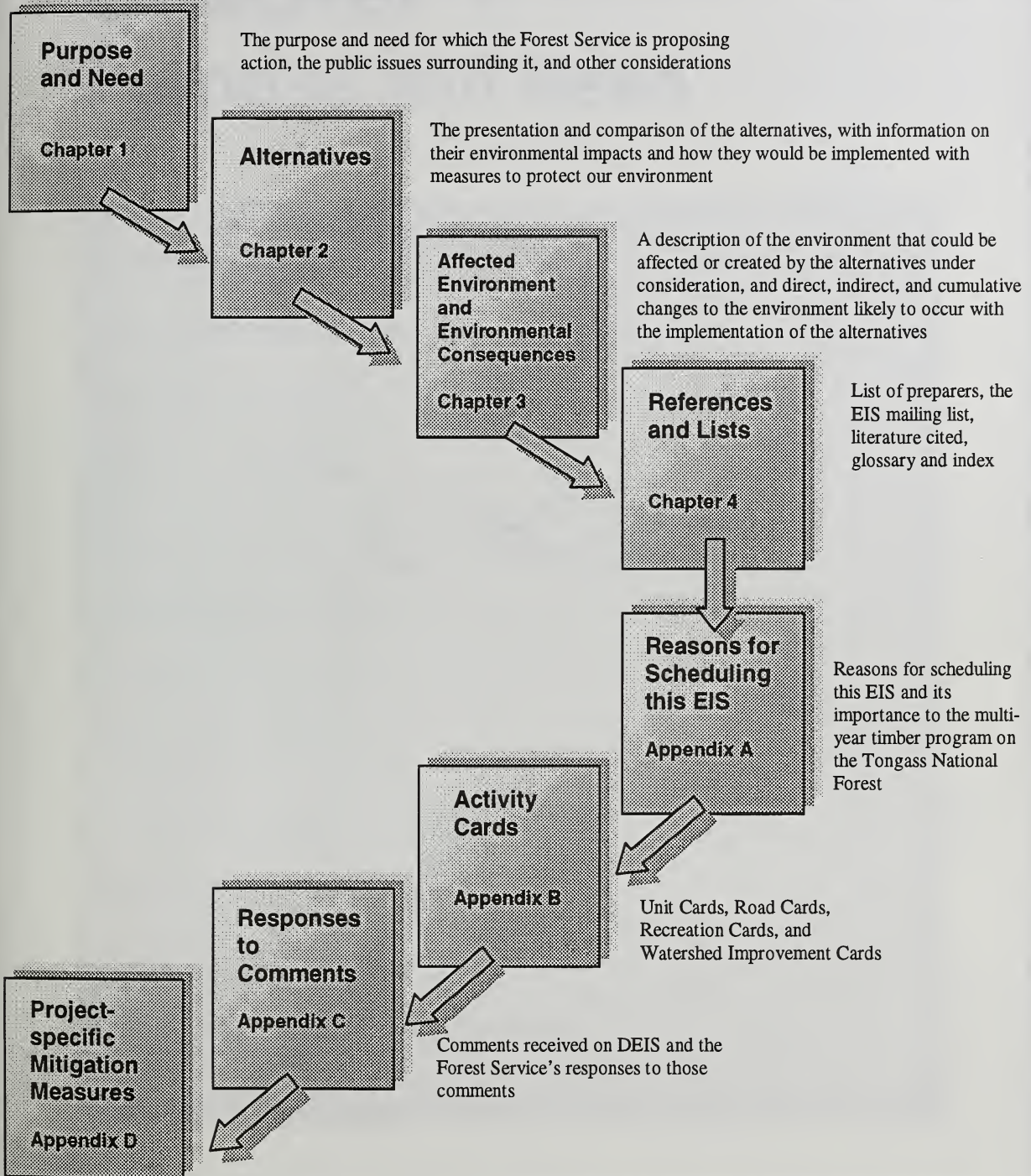
comments received on the Draft EIS, and the Agency's responses to substantive comments. Appendix D displays project-specific mitigation measures in a table format.

The Interdisciplinary Team used a systematic approach for analyzing the proposed project and alternatives to it, estimating the environmental effects, and preparing this EIS. This planning process complies with NEPA and the CEQ regulations. The appropriate federal, state, and local government agencies, and local federally recognized tribal governments were consulted.

Copies of this environmental impact statement may be obtained from the Petersburg Ranger District, PO Box 1328, Petersburg, AK 99833. Additional documentation, including more detailed analyses of project area resources, may be found in the project planning record located at the Petersburg Ranger District Office in Petersburg, Alaska.

Other reference documents such as the Forest Plan, the Tongass Timber Reform Act, and the Alaska Regional Guide are available at the Petersburg Ranger District Office as well as other Forest Service offices throughout Southeast Alaska. The Forest Plan is also available on the internet (www.fs.fed.us/r10/tongass) and CD-ROM.

Figure i-1. How this EIS is Organized





Chapter 1

Purpose and Need

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◆—————◆ Key Terms

Inventoried Roadless Areas - National Forest System lands identified as undeveloped areas typically exceeding 5,000 acres that meet the minimum criteria for inclusion in the National Wilderness Preservation System. These areas were originally inventoried during the Forest Service Roadless Area Review and Evaluation (RARE and RARE II) processes.

Land Use Designation (LUD) – the method of classifying land uses presented in the Forest Plan (1997).

Scoping Process – activities used to determine the scope and significance of a proposed action, what level of analysis is required, what data is needed, and what level of public participation is appropriate.

Tongass Land and Resource Management Plan (Forest Plan) – detailed direction for managing the land and resources of the Tongass National Forest, also known as TLMP. Reference to the Forest Plan in the Woodpecker Project Area DEIS is to the 1997 Forest Plan FEIS and Record of Decision.

Value Comparison Unit (VCU) – areas that generally encompass a drainage basin to provide a common set of areas where resource inventories could be conducted and resource interpretations made.



Chapter 1

Purpose and Need

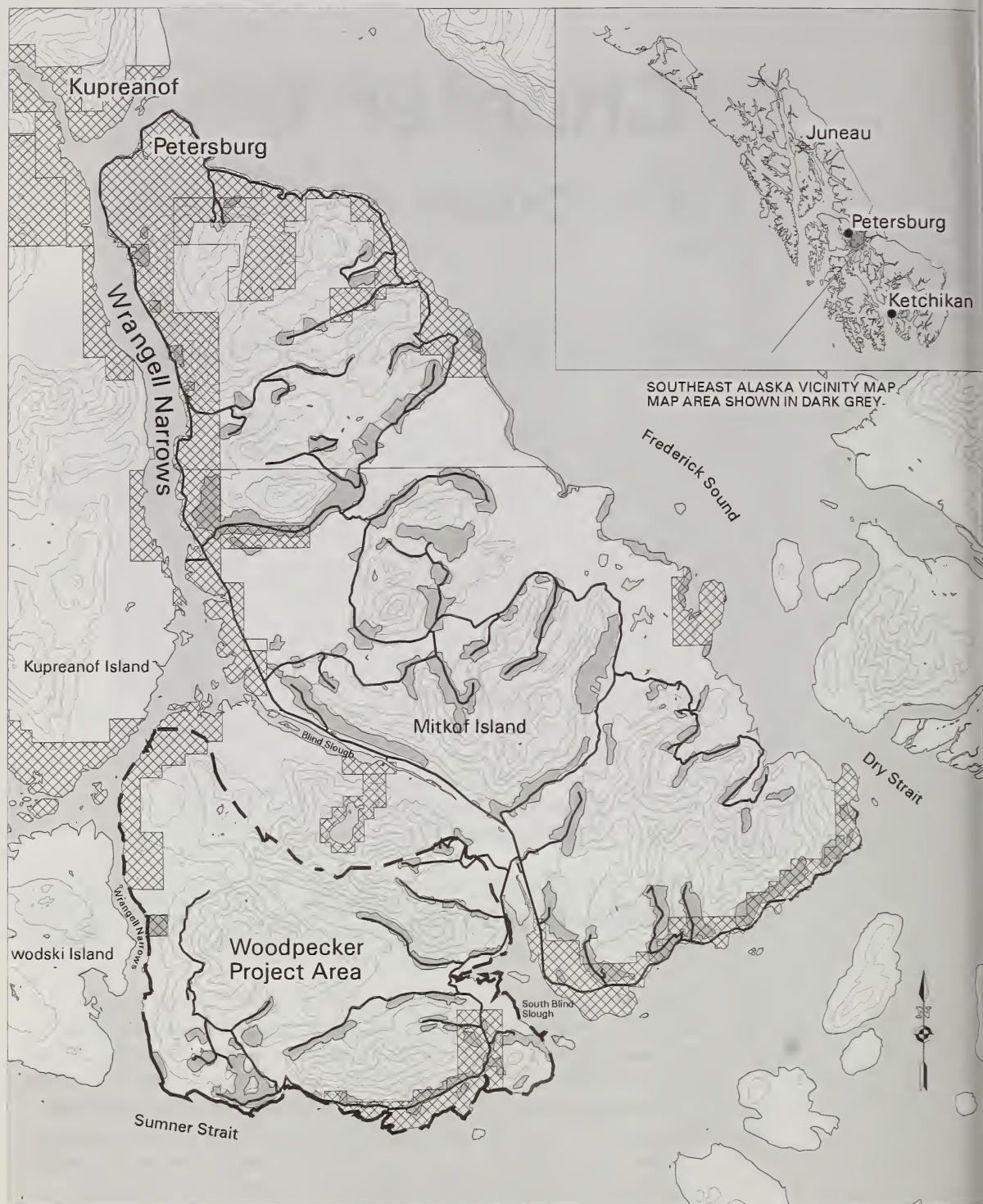
Introduction

This chapter discusses the background of the project and tiers back to national forest planning that has influenced project development. It includes the steps taken to identify environmental and public concerns that may occur during the implementation of the project. The sections include:

- Proposed Action for this Environmental Analysis
- Purpose and Need for the Project
- Decisions to be Made
- Management Direction
- Description of Project Area
- Public Involvement
- Significant Issues
- Issues Outside the Scope of this Project
- State and Other Federal Agency Review
- Applicable Laws and Executive Orders

Proposed Action

A Proposed Action is the proposal identified at the beginning of the analysis to briefly describe the project's actions and magnitude. This Proposed Action is located on Mitkof Island within the Petersburg Ranger District of the Tongass National Forest, Alaska Region (Region 10) of the USDA Forest Service, an agency of the U.S. Department of Agriculture (Figure 1-1). The Proposed Action (Alternative 2) for this environmental analysis includes timber harvest, the development of dispersed recreation opportunities, and watershed improvement projects. The proposed timber harvest would provide for multiple timber sale opportunities for approximately 12 million board feet (mmbf) of timber.



Vicinity Map Woodpecker Project Area
 Petersburg Ranger District
 Tongass National Forest
 Figure 1-1

Recreation opportunity enhancements include developing dispersed sites for camping and picnicking, improving access to recreation use areas, and improving turnouts for parking. Watershed improvement projects include revegetating exposed roadside banks. The use of roads within the Woodpecker Project Area will be examined, and objectives for road management will be proposed. As part of the analysis for this proposed action, the small Old-growth Habitat Reserves within the Woodpecker Project Area will be analyzed to see if the Forest Plan criteria are met. Any changes that are needed would be accomplished through a Forest Plan amendment.

Approximately 1,140 acres of timber would be partially harvested leaving various amounts of trees remaining within the stands. The amount of trees remaining after harvest would range from 20 percent to 75 percent of the stand. This would supply approximately 12 million board feet of timber for public consumption to be sold in multiple sales over several years. Some of the sales would be less than one million board feet. These timber sales would be offered over a period of five or more years.

Approximately 4.8 miles of new classified road would be built to access the timber. After harvest is completed, about 1.8 miles of this new permanent road would remain open, and 3 miles would be placed in storage by removing drainage structures. All timber harvest would be accomplished using ground-based yarding methods. About 6.1 miles of temporary roads would also be built for timber access. All of the temporary roads would be decommissioned after timber harvest (Figure 2-2). About 10 miles of existing classified roads (Roads 6280, 6281, 6283, 6284, 6287, and 40083) would be closed to motorized vehicles and placed in storage. Logs would be transported to an existing log transfer site or processing yard. The existing Woodpecker Cove Log Transfer Facility located within the Woodpecker Project Area may be used or another existing log transfer facility on Mitkof Island may be used.

Several recreation sites are proposed for development. These include dispersed picnic/camp sites near Wolf Track Lake and at the bridge west of Woodpecker Cove, expanding the path and adding a new picnic site in the Woodpecker Cove Demonstration Area, a picnic site and short trail overlooking Wrangell Narrows on Road 40003, and a new picnic/camp site along Road 6281.

Existing road turnouts would be improved and new turnouts would be developed along the Woodpecker Road (Road 6245) to provide additional parking and improve safety. A segment of road would be constructed to create a loop by connecting the Woodpecker Road and Road 6282 to provide a new recreation opportunity. Road 6282, including this new

1 Purpose and Need

extension, would be maintained for standard passenger vehicles. The Woodpecker Road, the Snake Ridge Road (Road 40006) and the beginning of Road 6246 would be improved for standard passenger vehicle use. Road 6286, the remainder of Road 6246, and the first half mile of Road 6281 would be maintained for high clearance vehicles. Road 6285, which provides access to the Woodpecker Cove Log Transfer Facility, would remain open to standard passenger vehicles.

To prevent possible degradation of water quality, several sites would be revegetated. These sites are generally associated with unvegetated road cutbanks. One site is in a second-growth stand. Planting will occur in contour rows using a method called brush hedgerows or cordons.

Five stream crossings on Road 6245 that have the potential to restrict fish passage would be reconstructed to meet design criteria to ensure fish passage.

Purpose and Need

The purpose and need for the proposed action is to respond to the goals and objectives identified by the Forest Plan and to move toward the desired future condition. The Forest Plan goals and objectives applicable to the Woodpecker Project Area are:

- Manage the timber resource for production of sawtimber and other wood products from suitable lands made available for timber harvest on an even-flow, long-term sustained yield basis and in an economically efficient manner.
- Seek to provide a timber supply sufficient to meet the annual market demand for the Tongass National Forest and the demand for the planning cycle.
- Provide Forest visitors with visually appealing scenery in areas along the Alaska Marine Highway, State highways, major forest roads, and from popular recreation places; recognize that in other areas where landscape is altered by management activities, the activity may visually dominate the characteristic landscape.
- Provide a range of recreation opportunities consistent with public demand, emphasizing locally popular recreation places and those important to the tourism industry.
- Maintain a Forest-wide system of old-growth forest habitat to sustain old-growth associated species and resources and ensure that the

reserve system meets the minimum size, spacing, and composition criteria.

- Provide a diversity of opportunities for resource uses that contribute to the local and regional economies of Southeast Alaska to support a wide range of natural resource employment opportunities within Southeast Alaska's communities.
- Develop and manage roads to support resource management activities and provide access for forest users.

Decision to be Made

Based on the environmental analysis in this EIS, the Forest Supervisor will decide whether and how to implement activities within the Woodpecker Project Area in accordance with Forest Plan goals, objectives and desired future conditions. This decision may include the following:

- the location and method of timber harvest, road construction and reconstruction, log transfer facilities, and silvicultural practices,
- road management objectives,
- recreation projects,
- watershed projects and stream crossing improvements¹,
- mitigation measures and monitoring requirements,
- whether there may be a significant restriction on subsistence uses,
- whether any changes in small old-growth habitat reserves should be made, and approved as a non-significant amendment to the Forest Plan, and
- whether a forest plan amendment or revision is necessary to adopt the proposed road management objectives that include road construction or reconstruction in an inventoried roadless area.

¹ The District Ranger, Petersburg Ranger District, has made a separate project decision to approve these watershed projects, which includes the revegetation projects and the reconstruction of stream crossing structures to improve fish passage. Implementation has begun on the revegetation projects to stabilize and mitigate effects on these areas. A contract has been awarded to begin the survey, design, and reconstruction of four of the five stream crossing structures.

Management Direction

Forest Service planning takes place at several levels: national, regional, forest, and project. As planning progresses from the national level to the project level, direction becomes increasingly more specific.

The National Forest Management Act (NFMA) provides guidance in the preparation of the regional guide and forest plans. It also includes specific direction for the management of resources from a national perspective using the Renewable Resources Assessment and Program to determine demand, supply and the relative costs and benefits of both market and non-market outputs. Specific items this Act addresses are the guidelines for timber suitability, the timber sale schedule, and management requirements for all National Forest resources.

The Alaska Regional Guide provides direction for resource management for the Alaska Region. This guidance relates to the species of vegetation, wildlife, and fish for the geological conditions found in Southeast Alaska and Southcentral Alaska - the Chugach and Tongass National Forests. Much of this information was incorporated into the Forest Plan.

A National Forest plan embodies the provisions of the National Forest Management Act, its implementing regulations, and other guiding documents. The Forest Plan sets forth in detail the direction for managing the land and resources of the Tongass National Forest. The Tongass Land and Resource Management Plan is the result of extensive analysis, which is addressed in the 1997 Forest Plan FEIS and the May 1997 Record of Decision. The Tongass Land and Resource Management Plan, as amended, is referred to as the Forest Plan in this document. Non-significant amendments to this Forest Plan have occurred during project-level analysis since that time.

The Woodpecker Project Area EIS is a project-level analysis. Its scope is confined to addressing the significant issues and possible environmental consequences of the project. It does not attempt to address decisions made at higher levels of planning, such as national or forest-wide. It does, however, implement direction provided at those higher levels. Where appropriate, the Woodpecker Project Area EIS tiers to the Forest Plan.

Relationship to the Forest Plan

The analysis for this project tiers directly to the Forest Plan. The revision to the Forest Plan involved extensive public participation for many years. A Record of Decision was signed in 1997. A subsequent Record of Decision superseded the 1997 Record of Decision in May 1999. The Woodpecker Project Area Draft Environmental Impact Statement followed the direction of the 1999 Record of Decision. In *AFA v. USDA*, the U.S. District Court, District of Alaska vacated the 1999 Record of Decision for the Tongass Forest Plan and upheld the 1997 Record of Decision on March 30, 2001. The Final Environmental Impact Statement for the Woodpecker Project Area is consistent with the 1997 Record of Decision for the Revised Tongass Land and Resource Management Plan. The changes that apply to the Woodpecker Project Area as a result of this decision include:

- The 200-year or greater rotation is no longer required for WAA 2007 as stated in the 1999 Record of Decision, Appendix B, Item 1.
- The open road density of 0.7 or less miles per square mile to reduce mortality (of Alexander Archipelago wolves) as modified under the 1999 Record of Decision, Appendix B, Item 2, is now the open road density of 0.7 to 1.0 mile, as specified in the 1997 ROD.
- There were no land use designation changes that affected this area or any additional rivers recommended for Wild and Scenic River designation within this project area.

Chapter 2 of the Forest Plan discusses the Forest-wide multiple-use goals and objectives for the Tongass National Forest. The concept of multiple use is applied at the Forest level. Not every acre or every management prescription will achieve all goals for all resources. The goals are reached at the Forest level by providing a mosaic of land and resource conditions based on the 19 Land Use Designations described in Chapter 3 of the Forest Plan. Chapter 4 of the Forest Plan contains the standards and guidelines that guide the protection or management of each resource.

Standards and guidelines were defined for all resources and documented in Chapter 4 of the Forest Plan. Standards and guidelines were designed so that all activities are integrated to meet land allocation objectives. Many of the same standards and guidelines apply to different land use designations. Some are specific only to certain land use designations or areas of the Tongass National Forest.

Many of the standards and guidelines applicable to the Woodpecker Project Area are listed under "Items Common to all Action Alternatives" in Chapter 2, and on the Unit and Road Cards in Appendix B. Discussions of the standards and guidelines that were used to mitigate resource concerns are discussed in Chapter 3.

1 Purpose and Need

Forest Plan Land Use Designations within the Woodpecker Project Area

The Forest Plan uses management prescriptions or land use designations to focus the management of the National Forest System lands within areas of the Tongass National Forest. Each land use designation (LUD) provides for a combination of goals and objectives, activities, practices and uses. Chapter 3 of the Forest Plan contains a detailed description of each land use designation. The Woodpecker Project Area includes four of these land use designations (Timber Production, Modified Landscape, Scenic Viewshed, and Old-growth Habitat). Goals, objectives and desired future conditions of each are summarized below. The locations of each land use designation are shown on Figure 1-3.

Timber Production Land Use Designation

The goals of this land use designation are to:

- maintain and promote industrial wood production from suitable timber lands, providing a continuous supply of wood to meet society's needs,
- manage these lands for sustained long-term timber yields, and
- seek to provide a supply of timber from the Tongass National Forest which meets the annual and planning-cycle market demand, consistent with the standards and guidelines of this land use designation.

The timber management objectives of the Timber Production Land Use Designation include:

- seek to reduce clearcutting when other methods will meet land management objectives,
- identify opportunities for diversifying the wood products industry (such as special forest products, and value-added local production),
- use forest health management to protect resource values,
- improve timber growth and productivity on commercial forest lands,
- plan, inventory, prepare, offer, sell, and administer timber sales and permits to ensure the orderly development of timber production, and
- emphasize the overall reduction of costs, increase of revenues, and improvement of public service within the timber program.

For the Timber Production Land Use Designation, the desired future condition includes a sustained yield of timber, healthy tree stands in a balanced mix of age classes from young stands to trees of harvestable age, and a road system providing access for timber management as well as recreation, hunting and fishing, and other public uses. Recreation

opportunities associated with roaded settings are available. Wildlife habitats are predominantly in the early and middle successional stages.

Modified Landscape Land Use Designation

The goals of this land use designation are to:

- maintain and promote industrial wood production from suitable timber lands, providing a continuous supply of wood to meet society's needs,
- seek to provide a supply of timber from the Tongass National Forest which meets the annual and planning-cycle market demand, consistent with the standards and guidelines of this land use designation,
- provide a sustained yield of timber and a mix of resource activities while minimizing the visibility of developments in the foreground distance zone, and
- recognize the scenic values of suitable timber lands viewed from identified popular roads, trails, marine travel routes, recreation sites, bays, and anchorages, and to modify timber harvest practices accordingly.

The timber management objectives of the Modified Landscape Land Use Designation include:

- seek to reduce clearcutting when other methods will meet land management objectives,
- identify opportunities for diversifying the wood products industry (such as special forest products, and value-added local production),
- use forest health management to protect resource values,
- improve timber growth and productivity on commercial forest lands,
- plan, inventory, prepare, offer, sell, and administer timber sales and permits to ensure the orderly development of timber production, and
- emphasize the overall reduction of costs, increase of revenues, and improvement of public service within the timber program.

The scenery objective for the Modified Landscape LUD is to apply the Visual Quality Objective of Partial Retention in the foreground distance zone, and Modification in the remaining zones, as seen from Visual Priority Travel Routes and Use Areas.

1 Purpose and Need

For the Modified Landscape Land Use Designation, the desired future condition accepts a somewhat modified landscape, but emphasizes scenic quality in foreground distance zones. Recreation opportunities associated with natural-appearing to modified settings are available. A variety of successional stages provide a range of wildlife habitat conditions.

Scenic Viewshed Land Use Designation

The goals of this land use designation are to:

- seek to provide a supply of timber from the Tongass National Forest which meets the annual and planning-cycle market demand, consistent with the standards and guidelines of this land use designation,
- provide a sustained yield of timber and a mix of resource activities while minimizing the visibility of developments as seen from visual priority travel routes and use areas, and
- recognize the scenic values of suitable timber lands viewed from selected popular roads, trails, marine travel routes, recreation sites, bays, and anchorages, and to modify timber harvest practices accordingly.

The timber management objectives of the Scenic Viewshed Land Use Designation are to:

- seek to reduce clearcutting when other methods will meet land management objectives,
- identify opportunities for diversifying the wood products industry (such as special forest products, and value-added local production),
- use forest health management to protect resource values,
- improve timber growth and productivity on commercial forest lands,
- plan, inventory, prepare, offer, sell, and administer timber sales and permits to ensure the orderly development of timber production, and
- emphasize the overall reduction of costs, increase of revenues, and improvement of public service within the timber program.

The scenery objectives for the Scenic Viewshed LUD are to apply the Visual Quality Objective of Retention in the foreground distance zone, and Partial Retention in the remaining zones, as seen from Visual Priority Travel Routes and Use Areas.

For the Scenic Viewshed Land Use Designation, the desired future condition emphasizes a natural-appearing landscape as viewed by users of Visual Priority Travel Routes and Use Areas. Recreation and tourism

opportunities in a range of settings are available. A variety of successional stages providing wildlife habitat occur, although later successional stages predominate.

Old-growth Habitat Land Use Designation

The goals of this land use designation are to:

- maintain areas of old-growth forests and their associated natural ecological processes to provide habitat for old-growth associated resources, and
- manage conifer stands to achieve old-growth forest characteristic structure and composition based upon site capability.

Objectives of the Old-growth Habitat Land Use Designation include:

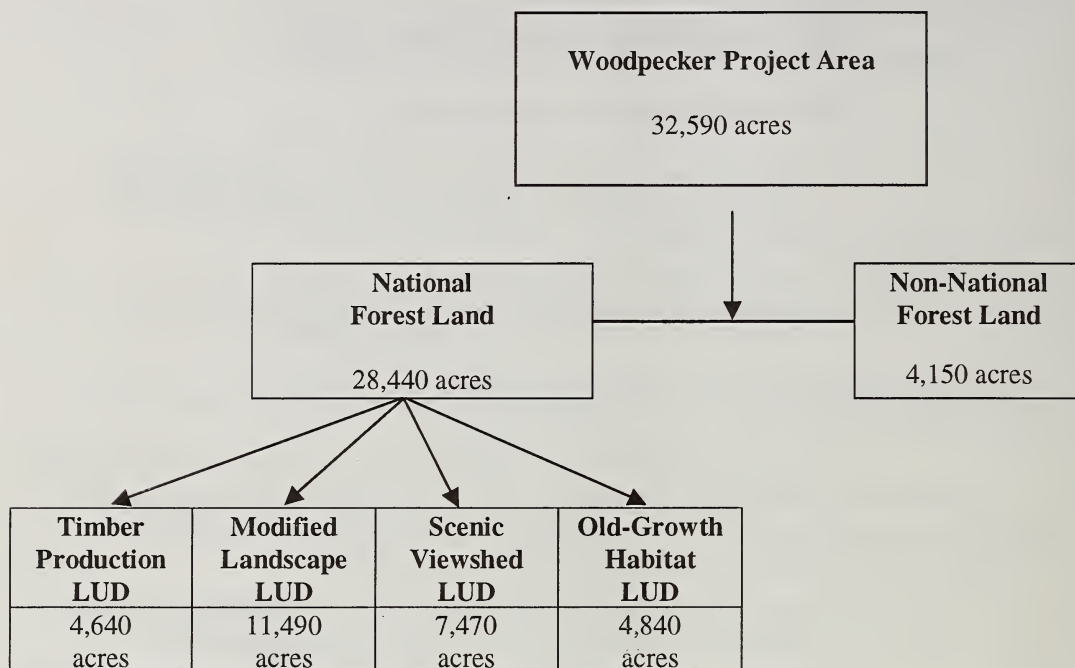
- Provide old-growth forest habitats, in combination with other land use designations, to maintain viable populations of native and desired non-native fish and wildlife species and subspecies that may be closely associated with old-growth forests.
- Contribute to the habitat capability of fish and wildlife resources to support sustainable human subsistence and recreational uses.
- Maintain components of flora and fauna biodiversity and ecological processes associated with old-growth forests.
- Allow existing natural or previously harvested early seral conifer stands to evolve naturally to old-growth forest habitats, or apply silvicultural treatments to accelerate forest succession to achieve old-growth forest structural features. Consider practices such as thinning, release and weeding, pruning, and fertilization to promote accelerated development of old-growth characteristics.
- To the extent feasible, limit roads, facilities, and permitted uses to those compatible with old-growth forest habitat management objectives.

For the Old-growth Habitat Land Use Designation, the desired future condition is for all forested areas to attain old-growth forest characteristics and provide a diversity of old-growth habitat types, associated species, and ecological processes.

Figure 1-2 gives the approximate acreages within the Woodpecker Project Area of each land use designation, and of lands in state or private ownership.

1 Purpose and Need

Figure 1-2. Woodpecker Project Area Acres by Ownership and Land Use Designation

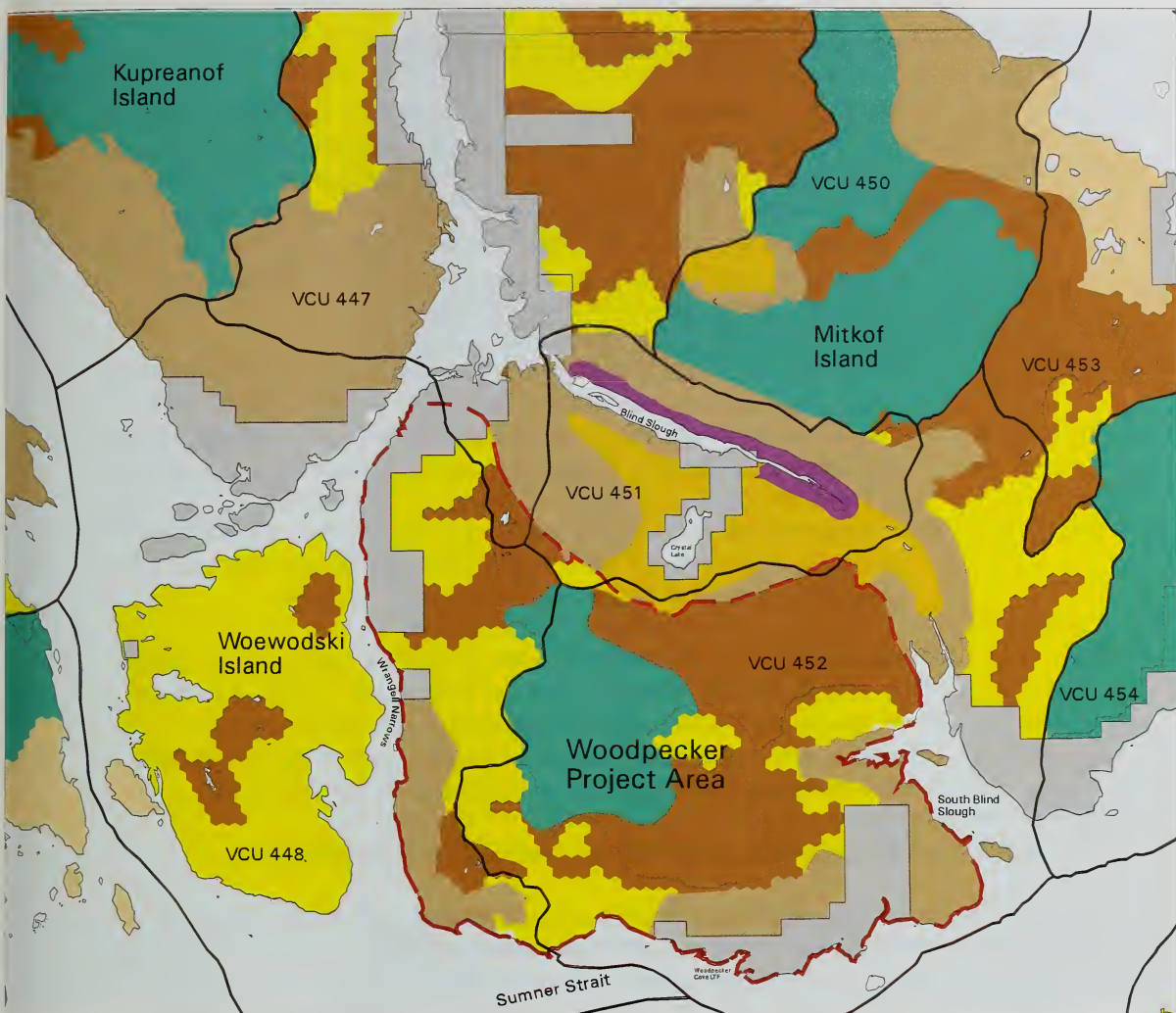


Desired Future Condition

A desired future condition envisions the ultimate goal for the resources and uses of an area. All resources and human uses are considered. Although it is not feasible to meet everyone's need or the needs of a particular species on every acre, these needs will be met over a larger area. This desired future condition takes into account past management practices. It is not meant to be achieved at once, and is dynamic, changing as more knowledge is acquired. The desired future condition for the three levels of planning – Forest-wide, island-wide, and project-wide are briefly identified below.

Forest Plan Desired Future Condition

The desired future conditions previously described for the Forest Plan land use designations, in conjunction with the other Forest Plan direction outlined above, provide the parameters for identifying and defining project-specific desired future conditions. The desired future conditions will help guide management of the project area consistent with the Forest Plan and the ecological conditions of the Woodpecker Project Area.

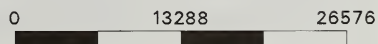


-  PROJECT AREA BOUNDARY
-  MODIFIED LANDSCAPE
-  NON-NATIONAL FOREST
-  OLD GROWTH HABITAT
-  SPECIAL INTEREST AREA
-  SEMI-REMOTE RECREATION
-  SCENIC VIEWSHED
-  TIMBER PRODUCTION
-  RECREATION RIVER
-  LAKES/SALTWATER

Land Use Designations Woodpecker Project Area Forest Plan



Figure 1-3



Scale is 1 inch = 13288 feet

1 Purpose and Need

Mitkof Island Desired Future Condition

The Mitkof Landscape Design (1995) proposed a desired future condition for Mitkof Island, primarily based on public comments and the proposed Forest Plan Alternative P (1992) as a base for the analysis. This desired future condition may change as more knowledge is acquired through adaptive management and scientific studies. Human use of the area may change as populations increase and if a proposed new ferry terminal is developed on the south end of Mitkof Island.

In the Mitkof Landscape Design, most people preferred to have the more developed recreation sites closer to Petersburg and less developed sites located farther away. They preferred well-maintained roads and were agreeable to having some of the roads closed. Timber harvest, if it were to occur, should be away from well-traveled roads and waterways. Clearcut harvest was generally viewed as unacceptable. Timber sales should provide economic opportunities for residents of Petersburg. Deer populations should be maintained or increased if possible.

Small Old-growth Habitat Reserves were designed as part of the Mitkof Landscape Analysis and were incorporated into the Record of Decision for the Forest Plan, along with several other changes to land use designations. A recommendation to designate part of the Woodpecker Project Area as Timber Production LUD was also incorporated.

Woodpecker Project Area Desired Future Condition

The Desired Future Condition for the Woodpecker Project Area was developed as part of the Mitkof Landscape Design. The public expressed support for improvement and maintenance of the road system in the Woodpecker Project Area for recreation and hunting access. Timber production would be allowed in this area. Future timber harvest would be less extensive than in the past and would favor smaller clearcuts and partial harvest rather than large clearcuts. High value deer winter habitat would be maintained. A system of old-growth habitat reserves and landscape connectivity would be maintained to ensure species viability for old-growth associated species. Recreation use would increase but would remain at acceptable levels to prevent resource damage and to give a range of recreation experiences, from driving on roads with passenger vehicles to semi-remote off-trail hiking.

During the Woodpecker Project Area analysis, the Mitkof Landscape Design was reviewed. Several changes were made to the road management objectives for the Woodpecker Project Area proposed in 1995. These changes reflect the current use, current road conditions and

road maintenance budgets. More partial harvest rather than clearcutting is proposed in order to meet standards and guidelines for scenery and marten. Timber harvest would mostly be offered in small sales to provide more opportunities for local operators. Dispersed recreation sites were proposed due to increased use of the area. Development of these sites will help to spread out recreation use and provide a broader range of recreation experiences.

Description of the Project Area

Geographic Location and Boundaries

The Woodpecker Project Area is located on the southwest part of Mitkof Island, approximately 27 miles south of Petersburg, Alaska (Figure 1-1). The Woodpecker Project Area is approximately 33,000 acres in size and is located in Township 59 South, and Ranges 79 and 80 East, Copper River Meridian.

The Woodpecker Project Area includes parts of Value Comparison Units (VCUs) 447, 448, 451, and 452. Portions of VCUs 447 and 452 are on the State of Alaska's list of VCUs with the highest Community Use Values. VCUs generally follow major watersheds. The northern boundary of the Woodpecker Project Area follows the Forest Plan non-development land use designation boundaries. The project area is bounded by Wrangell Narrows to the west, Sumner Strait to the south, and South Blind Slough to the east. VCUs are shown on Figure 1-3.

This environmental analysis reflects a combination of three of the proposed timber harvest projects identified during the Mitkof Landscape Analysis in the southwest part of the island: West Woodpecker, Woodpecker, and Sumner Creek. This area was first added to the Tongass National Forest ten-year sale schedule in 1996.

Prior Management of the Area

The Woodpecker Project Area has previously been used for timber production. Evidence of logging in the early 1900s exists in several locations. Most of the timber harvesting (about 2,300 acres) was done under the 25-year contract with Pacific Northern Timber, which started in the late 1960s and was closed in 1981. Smaller sales occurred throughout the 1980s and 1990s. The most recent harvest was the Sumner Salvage Sale, which was helicopter-logged in 1995. All harvested stands have regenerated successfully.

The road system within the Woodpecker Project Area was constructed for timber harvest in the 1960s and 1970s. This road system was connected with the Mitkof Highway in 1979, which allowed road access from the City of Petersburg.

1 Purpose and Need

Recreation developments in the Woodpecker Project Area include two viewpoints and picnic sites on Road 6287, and a picnic site on the Snake Ridge Road (Road 40006). The Ohmer Creek Nature Trail is nearby.

The Woodpecker Project Area has also been used extensively for hunting, especially deer hunting. Berry-picking in the clearcuts along the roads is a popular recreation and subsistence activity. A small area at milepost 10.5 on Road 6245 near the beach has been used for camping and picnicking. In 1993, this camping area was analyzed for improvement but it was decided not to improve the site.

Several research projects have taken place in the area. A study to measure the effects of deer browse occurred in the 1980s. An experiment to drain a muskeg area to enhance timber production occurred in 1985. An area of second-growth timber along Road 6287 is being used to study the effects of varying stocking densities of thinning to determine the optimum results for deer forage and tree growth. Recent studies in the area include deer, marten, and flying squirrel radio-tracking (telemetry) to determine these species' use of the forest. Grayling were stocked in Wolf Track Lake in 1997 to study the feasibility of introducing this species for sport fishing.

Project Implementation

If the decision is made to harvest timber in the Woodpecker Project Area the timber will be offered for harvest in sales of various sizes over a period of years. The amounts and number of sales will depend on the final decision and the timber demand. If the decision is made not to harvest timber in this area, other areas may be examined for more timber harvest if the demand exists. The timber demand is reviewed on an annual basis and the ten-year sale schedule is updated as needed. More information on scheduling timber harvest is in Appendix A.

Recreation projects, road management, and watershed improvement project implementation will depend on the availability of funds. If these projects are approved, they will be placed on the District five-year resource plans and recommended for funding. If other projects within the Woodpecker Project Area look feasible at a later date, they will be analyzed with a separate analysis.

Future Projects within or adjacent to the Woodpecker Project Area

Environmental analysis includes activities that will probably occur in the "reasonably foreseeable future." The timeframe and the geographic area used in the analysis differ by resource but tend to be ten years or less. Future projects are hard to predict with any degree of assurance. Listed below are some past, present, and future analyses that may influence future resource management in the Woodpecker Project Area.

Petersburg Ranger District Recreation Plan (1991-1996, as amended)

The Petersburg Ranger District Recreation Plan (1991-1996), updated annually, is being used to identify future projects. Many of the public comments from this plan concerned the management of roads and trails for a variety of uses. Suggestions included upgrading the Woodpecker Road (Road 6245) and improving the picnic site at Woodpecker Cove.

Mitkof Landscape Design

During the Mitkof Landscape Design public involvement and analysis, public comments, known information, and tentative management prescriptions for the Forest Plan revision were used to develop a list of potential projects that could be accomplished in various locations on Mitkof Island. All areas on Mitkof Island with a land use designation where timber harvest is allowed were considered for timber sale recommendations. Other resource projects were considered based on identified needs, use patterns, and the proposed land use designations. Other areas of Mitkof Island that were identified for future timber harvest during the Mitkof Island landscape analysis include:

- Overlook (5-8 mmbf)
- Frenchy Creek and West Falls Creek (2-4 mmbf)
- East Falls Creek (2-3 mmbf)
- Dry Strait and Ohmer Creek (3-5 mmbf)
- South Blind Slough (2-3 mmbf)

Environmental analysis for Overlook began in the summer of 2000. Based on the current ten-year sale schedule, Frenchy Creek and West Falls Creek will be analyzed in Fiscal Year 2004 and South Blind Slough in Fiscal Year 2006. The timber from both of these areas is planned to be offered in several sales.

Recreation projects suggested during the Mitkof Landscape Design that have been completed include barrier-free access for the Blind River Rapids Trail and the swan observatory adjacent to Blind River, and the improvement of the Three Lakes Loop Trail and Ideal Cove Trail. Other suggested recreation projects identified in or adjacent to the Woodpecker Project Area include a cabin on the Snake Ridge Road with a trail from the cabin to Crystal Mountain, a saltwater vista off the Woodpecker Road, and a trail for fishing access to Sumner Creek. Environmental analysis for these projects may be conducted in the future, depending on recreation use levels.

1 Purpose and Need

Southeast Transportation Plan EA – Alaska Department of Transportation

Following the decision of the State of Alaska's analysis for a ferry terminal at the south end of Mitkof Island, a review will be done to identify recreation or transportation improvements that might be needed on National Forest System lands to respond to any expected changes in the use of Mitkof Island. The exact location of the ferry terminal has not yet been decided. Possible ferry terminal locations were considered in the design of timber harvest units that could be seen from Sumner Strait and Wrangell Narrows, which are part of the current Alaska Marine Highway route.

Woewodski Island Environmental Analysis

Woewodski Island, which is located to the west of the Woodpecker Project Area, is scheduled for an environmental analysis for timber harvest and other projects beginning in Fiscal Year 2003.

Public Involvement

Public involvement is a key component of the planning process. The Council on Environmental Quality (CEQ) defines scoping as "...an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" (40 CFR 1501.7). Among other things, the scoping process is used to invite public participation, to help identify public issues, and to obtain public comment at various stages of the environmental analysis process. Although scoping is to begin early, it is an iterative process that continues until a decision is made. Scoping at other levels of the planning process such as for the Forest Plan and the landscape level is also considered and used. The following paragraphs describe the public involvement to date for the Woodpecker Project Area analysis.

Mitkof Landscape Design, 1995

The landscape analysis for the Mitkof Landscape Design in 1994-1995 involved a large public involvement effort with the residents of Petersburg. This included open houses, public workshops, personal interviews, and scoping documents. Many site-specific comments about the different areas of Mitkof Island, including the Woodpecker area, and how the public wanted them managed were collected. The final document included project lists for each resource.

Schedule of Proposed Actions

The Schedule of Proposed Actions is published on a quarterly basis to inform the public of which activities are being considered. Often, projects are listed as early as possible as a pre-project analysis. People are invited to respond for more information and to be on the mailing list for each project. This schedule is mailed to anyone who requests it and is available at district offices. It can be found on the Tongass National Forest internet site at www.fs.fed.us/r10/tongass.

The Woodpecker Project Area EIS was listed on the Schedule of Proposed Actions for pre-project analysis since the summer of 1998. It has been listed as an environmental analysis project since fall 1998.

Mailing List

A Woodpecker Project Area EIS mailing list was established and is maintained to provide interested citizens, groups and agencies with pertinent documents in a timely manner. This original list consisted of approximately 90 individuals and groups that had previously shown interest in the Woodpecker Project Area. As new interested parties respond to various scoping documents, their names are added to the list. The opportunity for citizens to have their names placed on the mailing list is open throughout the EIS process. The mailing lists used during each phase of the EIS process are filed in the planning record.

Open Houses

The Petersburg Ranger District regularly conducts open houses at various times of the year. An open house is less formal than a public meeting. During an open house, representatives of the various district ID teams host displays of maps and answer questions for all of the ongoing NEPA projects on the Petersburg Ranger District. Interested citizens are encouraged to drop in at their convenience and ask questions or share ideas and concerns with the hosts. These open houses are announced in the *Petersburg Pilot*, the local cable TV scanners in Petersburg and Kake, and on the local radio stations, KFSK and KRSA. Flyers are placed on public bulletin boards in Petersburg and Kake.

Open houses that presented project area information for this project and others were held in Petersburg and Kake throughout 1999 and 2000. These open houses were scheduled to discuss local concerns and opportunities that should be addressed.

The first open house that presented information on the Woodpecker Project Area was held in the spring of 1999. The Logging System and

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Transportation plan that had been developed for the Woodpecker Project Area and the Forest Plan land use designations were displayed. There were no preliminary alternatives developed for the Woodpecker Project Area at that time.

In the fall of 1999, several open houses were held in Petersburg and Kake. All of the preliminary alternatives for the Woodpecker Project Area had been developed by this time and were on display.

In February 2000, an open house focusing on the Woodpecker Project Area was held in Petersburg. The preliminary alternatives were discussed. Visual simulations of several units were presented to show what the units would look like after harvest.

Public Meetings and Displays

In early August 1999, the No-action Alternative, the Proposed Action and two of the preliminary alternatives were displayed in downtown Petersburg at the Petersburg Marine Advisory Program window along with other items of interest.

On August 19, 1999, a presentation and slide show were held in Petersburg to encourage public discussion of the Woodpecker Project Area. This meeting was announced in the *Petersburg Pilot*, the local cable TV scanner, and on the local radio stations, KFSK and KRSA. A short radio interview on KFSK was also used to inform the public of the project. Maps that showed the units and roads identified for the Proposed Action (Alternative 2) and for preliminary Alternatives 3 and 4 were displayed at the meeting. Other maps displayed included the deer habitat suitability index map, marten habitat suitability index map, and volume strata distribution map. A public tour was held the following day to take interested members of the public to the project area.

Public Scoping Documents

In June 1999, a letter providing information and seeking public comment was mailed to approximately 90 individuals and groups on the project mailing list. This included federal and state agencies, federally recognized tribal governments, municipal offices, businesses, interest groups, and individuals. We received 16 responses to this initial mailing.

Notice of Intent (NOI)

A Notice of Intent was published in the Federal Register on January 18, 2000. A scoping notice was sent to those people on the mailing list to announce the publication of the Notice of Intent. This second scoping letter briefly summarized the proposed action and preliminary

Consultation with Other Government Agencies and Federally Recognized Tribal Governments

alternatives. This document was mailed to approximately 120 individuals and groups. We received 18 responses to this scoping letter.

The Forest Service is committed to working closely with other agencies and federally recognized tribal governments in order to foster collaborative stewardship. The Forest Service is responsible for coordinating the review of the project by several other agencies. The purpose of these reviews is to help make the best possible analysis. In some cases, the reviews are required because another agency has authority to issue permits for specific proposed activities. In other cases, the reviews allow interaction with other agencies with responsibilities for certain environmental conditions, like clean water or healthy wildlife populations. This interagency cooperation helps identify the means to avoid or mitigate possible harmful environmental effects. In most cases, an ongoing dialogue is maintained with these agencies throughout the EIS process.

We consulted with the following state and federal agencies and federally recognized tribal governments about this project:

- Petersburg Indian Association
- Wrangell Cooperative Association
- Organized Village of Kake
- Alaska Department of Fish and Game
- Alaska Department of Environmental Conservation
- Alaska Division of Governmental Coordination
- U.S. Environmental Protection Agency
- U.S. National Marine Fisheries Service
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service

In April 1999, a representative from the U.S. Fish and Wildlife Service visited Petersburg to discuss this and other projects. In August 1999, a field review of the Woodpecker Project Area was held for agency representatives. Representatives of the Alaska Department of Fish and Game, the Alaska Department of Environmental Conservation, and the U.S. Fish and Wildlife Service participated in the field review.

Several visits and teleconferences were made with both the U.S. Fish and Wildlife Service and Alaska Department of Fish and Game to discuss their concerns in the area. Interagency collaboration was used to analyze the small old-growth habitat reserves.

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Availability of Draft EIS

The Notice of Availability of the Draft EIS was published in the Federal Register on August 18, 2000, and through Public Notices in the *Petersburg Pilot*, the designated newspaper of record. The publication of the first Public Notice initiated the 45-day public comment period. EIS documents were also mailed to federal and state agencies, federally recognized tribal governments, and municipal offices, and anyone else who had requested them. Seventeen comment letters on the DEIS were received during the comment period. The comments received mainly concerned:

- the amount of deer habitat affected by timber harvest, including the use of the deer habitat capability computer model,
- the need for timber harvest,
- subsistence use of the area,
- practicability of partial harvest,
- the necessity of protecting water quality and wetlands,
- proposed dispersed recreation sites, including the loop road connection, and
- National Forest management and the Roadless Area Conservation Rule.

These comments were used to complete the analysis of the project area, which included the development of a new alternative, and to help the Responsible Official reach a decision on the implementation of any of the proposed activities.

ANILCA 810 Subsistence Hearing

A subsistence hearing was held in Petersburg, Alaska on October 4, 2000. Petersburg is the community that is most likely to be affected by any changes in subsistence resource availability on Mitkof Island. About seven people attended the hearing, and three of those provided oral and/or written testimony. The three people who testified were all subsistence users of the Woodpecker Project Area. The concerns expressed in their testimonies centered on the effects of partial harvest on deer winter habitat, the effectiveness of stream crossing structures in fish-bearing streams, and the need for improved roaded recreation opportunities such as pullouts and loop roads.

Publication of the Final Environmental Impact Statement

Following the public comment period for the Draft Environmental Impact Statement (DEIS), the comments received were reviewed and included in the analysis for the Final EIS. Responses for each of these comments are included in Appendix C of this Final EIS. The Notice of Availability of the Final EIS will be published in the Federal Register and through Public Notices in the *Juneau Empire*, the newspaper of record, as designated in the spring of 2000.

Significant Issues

A significant issue provides the focus for one or more alternatives and can be used to compare alternatives. It is used to track environmental effects throughout the analysis. Significant issues for the Woodpecker Project Area were identified through public and internal scoping. Similar issues were combined where appropriate. Issues can arise from a variety of sources, including:

- issues, concerns, and opportunities identified in the Forest Plan,
- issues identified for similar projects (past actions),
- current internal issues,
- changes in public uses, attitudes, values, or perceptions,
- issues raised by the public during scoping, or
- comments from other government agencies.

An issue may be considered significant if it is a concern for many people, is of national interest, or if it concerns possible significant effects to one or more resources. It may not necessarily relate to the number of people who have raised the concern. Measures of the significance of an issue are based on the extent of the geographic distribution or duration of the related effects, or the intensity of interest or resource conflict surrounding the issue. For an issue to be considered significant at the project level, it must be relevant to the specific project and can be appropriately addressed at the project level. Some issues have already been resolved through national level direction or analyzed at the Forest Plan level.

The Interdisciplinary Team used an issue sorting process to analyze comments received during scoping. The process is intended to ensure that all significant issues are identified, and that all other issues are meaningfully addressed in the analysis. Comments were received from individuals, organizations, state agencies, and other federal agencies. Each comment received during scoping was considered a potential issue, and was evaluated to determine whether the related issue is:

- resolved by Forest Plan land use designations,
- addressed through implementation of Forest Plan standards and guidelines and Best Management Practices,
- addressed through implementation of project-specific mitigation measures,

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- addressed during processes or analyses routinely conducted by the Interdisciplinary Team,
- addressed through spatial location of alternative design,
- beyond the scope of the project, or
- used to drive or partially drive an alternative.

Once a significant issue is identified, measures are developed to analyze how each alternative responds to the concern. Measures are chosen that are quantitative (where possible), predictable, responsive to the issue, and linked to cause and effect relationships. These measures describe how the alternative affects the resource or resources at the heart of the issue. Monitoring and mitigation of the anticipated environmental effects of the project are also designed to be responsive to significant issues.

The following four issues were determined to be significant and within the scope of the project decision. These issues are addressed through the proposed action and alternatives.

Some concerns can be mitigated the same way in all alternatives. For example, riparian and beach buffer strips will protect fish habitat from the effects of timber harvest in all alternatives. These measures are listed in Chapter 2 under “Items Common to all Action Alternatives.” The analyses of these concerns are discussed under Other Environmental Considerations in Chapter 3.

Issue 1 – Deer Hunting

Mitkof Island has traditionally been used by residents of Petersburg for subsistence deer hunting. During the 1960s, a large deer population that exceeded the carrying capacity of the land existed due to a combination of wolf control, mild winters, and availability of forage in recent clearcuts on parts of Mitkof Island. Several hard winters in the late 1960s and early 1970s caused the deer population to crash. After this crash, the deer population did not recover for about 20 years. There was no deer-hunting season on Mitkof Island and adjacent Kupreanof Island from 1972 through 1992. This forced residents to travel farther for their subsistence needs. When the season reopened, the number of deer to be harvested was reduced from six deer to one buck, and the length of the season was reduced from the historical four to five months to two weeks. Although the deer population will probably never be as great as in the 1960s, Petersburg residents continue to demand a steady supply of deer for subsistence use.

The Woodpecker Project Area is the most heavily used part of Mitkof Island for deer hunting, due to the accessibility provided by the road system that connects to Petersburg, and the higher numbers of deer inhabiting the area. The number of deer is higher in the Woodpecker

Project Area because of good forage and because of the milder winters found on the southern slopes near saltwater. It also provides an opportunity for hunters to teach this traditional use of Alaska's resources to their children without a large expenditure of time or money and without the safety risks inherent in traveling to outlying areas.

Units of Measure

Alternatives will be compared in terms of the predicted changes in deer habitat capability, both immediately after harvest and in the foreseeable future. The amount of road access and possible increases in competition will also be discussed.

Issue 2 – Recreation

Because of the proximity of the Woodpecker Project Area to the City of Petersburg, many residents use the area for a variety of recreational activities. Some of the residents primarily want the area kept as natural as possible for access by foot or boat. Other residents want the ability to drive to the area and want more enjoyable roaded activities. The current road system that can be accessed by Mitkof Island residents is limited to about 100 miles. Many of these miles are maintained for high-clearance vehicles only. Another aspect of this issue is the effect on scenery as it relates to the enjoyment of this area and adjacent saltwater and recreational areas.

During the Mitkof Landscape Analysis, many comments were received about recreation use on Mitkof Island. Many of these comments pertained to roaded versus unroaded use. The development of dispersed recreation sites and the proximity to Petersburg was also a concern for some people.

The poor condition of the main road through the Woodpecker Project Area, Road 6245, was mentioned many times. Since that time, part of the road has been improved. The main recreational use of the Woodpecker Project Area is for hunting, but many people also use the area for berry-picking and recreational driving. Recent comments indicated that people would use the area more if the road were improved and if dispersed recreation sites existed.

In the future, there may be more use of the Woodpecker Road as a result of the Southeast Alaska Transportation Plan, which proposes to build a new ferry terminal on the south end of Mitkof Island. The Alaska Department of Transportation has recently released the Draft Project Report for the Petersburg Transportation Impact Study (July 2000). The study forecasts the expected socioeconomic and travel impacts of implementing the proposed Transportation Plan on residents of Petersburg and other residents of Mitkof Island. According to the study,

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there will be an increase in visitors to the island as a result of the proposed developments, but most of the impacts are expected to be confined to the area surrounding the Mitkof Highway and the downtown core of Petersburg.

Parts of the Woodpecker Project Area can be seen from Visual Priority Travel Routes and Use Areas, such as the Alaska Marine Highway, Wrangell Narrows, and Sumner Strait. Both residents and tourists use these areas for water-based recreation. Several small cruise ships travel the Wrangell Narrows, although larger cruise ships generally do not. The concern mentioned in public comments was to maintain the value of the scenery, for the enjoyment of both residents and visitors.

Units of Measure

Comparison of alternatives for this issue will examine the changes in the Recreation Opportunity Spectrum and recreation use of the area, the effects on scenery by alternative, and the number of dispersed recreation sites created.

Issue 3 – Economics

This issue relates to the viability of the local economies, both on Mitkof Island and around Southeast Alaska. It concerns proposed timber sales, the potential employment and revenues generated by the project, and the ability of smaller companies to compete for timber sales in the project area. The most economical opportunities for smaller timber companies are located along the existing road system. Higher volume sales requiring extensive road construction or helicopter logging may be beyond the means of smaller timber purchasers.

Another aspect of economics is the effect of timber harvest on other local industries – fishing, tourism, and commerce, for example. These effects are not specific to the Woodpecker Project Area and are interdependent with other parts of Southeast Alaska.

Units of Measure

To compare the alternatives using this issue, both qualitative and quantitative values will be used. Many of the measurements generated will be directly proportional to the amount of volume harvested. The amount of volume and the appraised value will be compared between alternatives.

Issue 4 – Crystal Inventoried Roadless Area (#224)

Roadless areas are identified as undeveloped lands where there are no roads maintained for travel by motorized vehicles intended for highway use and which do not have extensive timber harvest or other developments. The original inventoried roadless areas were delineated for evaluation for potential inclusion in the National Wilderness Preservation system. This analysis examines the values of the Crystal Inventoried Roadless Area that may be affected by this proposed project. During the analysis for the Woodpecker project, alternatives that would affect the Crystal Inventoried Roadless Area were considered along with alternatives that would not affect the area.

Currently, the Forest Service is reevaluating its Roadless Area Conservation Rule (Roadless Rule) and is enjoined from implementing all aspects of the Roadless Rule by the U.S. District Court, District of Idaho. The Woodpecker Draft EIS was issued prior to the deadline in the Roadless Rule, so this project could move forward regardless of the status of the Rule. Implementation of any alternative that would change the wilderness character of the Crystal Inventoried Roadless Area would depend upon the applicability of the Court's injunction.

According to the Forest Plan, Inventoried Roadless Areas that are not in an existing designated Wilderness may be managed for a wide range of other resource management activities. The Forest Plan designated parts of the Crystal Inventoried Roadless Area #224 (see Table 3-15 and Figure B-1) with land use designations of Timber Production, Modified Landscape, and Scenic Viewshed, which allow roads and timber harvest. Other parts of this roadless area, which are located outside the Woodpecker Project Area, are designated as Old-growth Habitat, Recreation River, and Special Interest Area. These land use designations do not allow development. The Woodpecker Project Area includes only the portions of the Crystal Inventoried Roadless Area that have been allocated to development land use designations, which allow timber harvest and road construction.

Units of Measure

To respond to this issue, alternatives will be compared according to how they affect the portion of the Crystal Inventoried Roadless Area that is within the Woodpecker Project Area. This evaluation will display the reduction in the size of the roadless area and discuss effects on its various values, including the potential for recommendation for inclusion in the National Wilderness Preservation System.

Other Environmental Considerations

Many comments received during public scoping are not considered to be significant issues because they have been mitigated in the same way in all alternatives, did not drive an alternative, or are not significantly affected by any alternative. Some of the concerns expressed are already regulated by the standards and guidelines of the Forest Plan, many of which are described in Chapter 2 under “Items Common to All Action Alternatives.” These concerns are also discussed briefly in Chapter 3 after the discussion of the significant issues. These include:

- Biodiversity
- Threatened, Endangered, and Sensitive Animals and Plants
- Wildlife
- Vegetation and Timber Resources
- Soils and Geology
- Fish Habitat and Water Quality
- Air Quality
- Wetlands
- Transportation and Facilities
- Subsistence
- Heritage Resources
- Non-National Forest System Lands
- Wild, Scenic and Recreational Rivers

Issues Beyond the Scope of This EIS

Some comments received during scoping are not specific to this project or relate to decisions at a higher level of planning. These comments are paraphrased and addressed below:

There should be no more logging or road building on national forest lands.

The National Forest Management Act of 1976 determined that use of National Forest System lands for timber production and road building is appropriate. This act allows for timber production on lands that are deemed suitable and where Forest Plan land use designations allow timber harvest. An amendment to this act would need to be made by the United States Congress.

This was one of the significant issues raised during the analysis of the Forest Plan. Analysis was done and the selected alternative for the Forest Plan included timber harvest and road construction for certain areas. The Woodpecker Project Area was one of the areas that allowed timber harvest and road building.

The No-Action Alternative for this environmental impact statement responds to this issue by not proposing timber harvest and road construction for the analysis of the Woodpecker Project Area.

Stop logging and road building on the Tongass National Forest and/or Mitkof Island.

The task of allocating Tongass National Forest land to different land use designations was accomplished in the Forest Plan. The plan looks at multiple uses on the Tongass as a whole and determines what areas are best used in what ways. These land allocation issues are beyond the scope of this project-level analysis, except as allowed in Chapter 5 of the Forest Plan. This includes GIS mapping errors, the adjustment of small old-growth habitat reserve boundaries, and other minor boundary adjustments.

The No-Action Alternative for this environmental impact statement responds to this issue by not proposing timber harvest and road construction for the analysis of the Woodpecker Project Area.

All roadless areas greater than 1000 acres should be protected from logging and new roads.

The Forest Plan, to which this analysis is tiered, designated some of these areas as development land use designations and some as non-development land use designations.

Completely protect all old-growth forests.

The guidelines for management of old-growth forests are developed at the Forest Plan level. During the Forest Plan analysis, various strategies were analyzed for the protection of old growth. This resulted in the forest-wide old-growth habitat reserve system. Other old-growth forests are protected by non-development LUDs, such as Semi-remote Recreation, and by Riparian and Beach and Estuary Fringe Standards and Guidelines. Some old growth is designated as available for timber harvest by development LUDs such as Timber Production, Scenic Viewshed and Modified Landscape.

1 Purpose and Need

Do not build a deep-water port in the project area.

A deep-water port is not needed or proposed for this project.

Create a new definition of small business that lowers the number of employees allowed.

The guidelines for the size of small businesses are determined by the Small Business Act and controlled by the Small Business Administration.

Combine the proposed South Mitkof Ferry Terminal and this project into one EIS.

The National Environmental Policy Act does encourage combining projects under one environmental analysis and document when it would eliminate duplication of effort. Because of this, several projects within the same analysis area were combined into this environmental impact statement.

The State of Alaska is currently developing alternatives for the location of a new Alaska Marine Highway ferry terminal on the south end of Mitkof Island. The proposal for a new ferry terminal was not included in this analysis since all of the proposed locations for the ferry terminal site are outside the Woodpecker Project Area. Woodpecker Cove was briefly considered as a possible ferry terminal location, but has been eliminated from consideration, according to the Alaska Department of Transportation.

Spread sales out over a ten-year period.

The Tongass National Forest ten-year sale schedule displays when and how much timber will be offered. It is reviewed on an annual basis. The amount and timing of sales offered will be also be influenced by the amount of volume approved in the Record of Decision. Currently, the sales from this project are planned to be offered from FY 2001 to FY 2007.

Reserve 100 feet behind mean high water for everyone's use. Access to beaches should be open ... whether it is State or Federal land.

National Forest System lands start at the mean high tideline and are open for public access in all but a very few areas. The Forest Plan provides a 1000-foot beach buffer for all National Forest System land. Forest Development Roads and some hiking trails provide access to these areas.

The State of Alaska claims ownership of tidelands below mean high tide. The Forest Service does not control access to state or private lands.

Assign values to jobs already existing and quantify impacts to the non-timber sector from commercial logging.

Determining multiplier values for non-commodity resources is done at the national or Forest Plan level. The project analysis for impacts to non-timber resources is tiered to the Forest Plan analysis.

Prevent ATV damage.

The prevention of off-road damage by ATVs is primarily an administrative and law-enforcement issue. An administrative closure for the Blind Slough area prohibits the use of ATVs. Operation of all-terrain vehicles “in a manner which damages or unreasonably disturbs the land, wildlife, or vegetative resources” is prohibited on all National Forest System lands. Resource damage can be minimized or eliminated by encouraging ATV use on forest roads that have been closed to standard passenger vehicles. See the Road Cards in Appendix B for more information.

State and Other Federal Agency Review

Alaska Division of Governmental Coordination

Alaska Coastal Management Act of 1977

The Alaska Coastal Management Act of 1977 contains standards and criteria for a determination of consistency for activities within the coastal zone. The Alaska Coastal Management Plan incorporated the Alaska Forest Resources and Practices Act standards and guidelines for timber harvesting and processing. The Forest Service standards and guidelines and mitigation measures described in Chapters 2 and 3 of this document are comparable to or exceed state standards.

Coastal Zone Management Act of 1972

All alternatives will be in compliance with the federal Coastal Zone Management Act of 1972 (CZMA). Federal lands are not included in the definition of the coastal zone as prescribed in the CZMA. However, the act requires that when federal agencies conduct activities or developments that affect the coastal zone, the activities or development must be consistent to the maximum extent practicable with the approved State Coastal Management Program.

1 Purpose and Need

A Memorandum of Understanding between the State of Alaska and the Regional Forester, dated March 2, 2000, outlines standards against which the consistency evaluation will be made. The following standards are included in the agreement:

- Alaska Statute Title 46, Water, Air, Energy, and Environmental Conservation,
- Alaska Forest Practices Act of 1993, and
- the District Coastal Management Program.

Once the Forest Service has made the required consistency determination, a review coordinated through the Alaska Division of Governmental Coordination (ADGC) will determine if the State agencies agree with the Forest Service's determination of consistency with the Alaska Coastal Management Program (ACMP).

Alaska Forest Resources and Practices Act

The Alaska Forest Resources and Practices Act (1993) affects National Forest management through its relationship to the Alaska Coastal Management Program and the Federal Coastal Zone Management Act. This act is the standard used for evaluating timber harvest activities on Federal lands for purposes of determining consistency to the maximum extent practicable with the Alaska Coastal Management Program. The Act recognizes that consistency is attainable for timber harvest on federal land using procedures different from those required by the Act or its implementing regulations.

Federal and State Permits, Licenses, and Certifications

To proceed with the activities proposed in this EIS, various permits from other federal and state agencies may be required. The following permits have been or will be obtained.

U.S. Army Corps of Engineers

Section 404 of the Clean Water Act (1977, as amended) requires a permit from the Corps of Engineers before filling or dredging in wetlands and tidelands. This applies to the existing Woodpecker Cove LTF. A permit has been obtained for the Woodpecker Cove LTF. Any 404 permits needed for roads or other uses will be obtained.

U.S. Environmental Protection Agency

A Storm Water Discharge Permit has been obtained, and a National Pollutant Discharge Elimination System review (Section 402 of the Clean Water Act) has been requested. Both of these permits are required for the Woodpecker Cove LTF.

State of Alaska, Department of Natural Resources

The State of Alaska claims ownership of tidelands below mean high tide. Use of the Woodpecker Cove LTF requires authorization for occupancy and use of tidelands and submerged lands from the Department of Natural Resources. This permit has been obtained.

State of Alaska, Department of Environmental Conservation

A Certification of Compliance with Alaska Water Quality Standards (Section 401 Certification) has been obtained for the Woodpecker Cove LTF.

Applicable Laws and Executive Orders

Shown below is a partial list of federal laws and executive orders pertaining to project-specific planning and environmental analysis on federal lands. While most pertain to all federal lands, some of the laws are specific to Alaska. Disclosures and findings required by these laws and orders are contained in Chapter 3 of this EIS.

- Rivers and Harbors Act of 1899
- Multiple-Use Sustained-Yield Act of 1960
- National Historic Preservation Act of 1966 (as amended)
- Wild and Scenic Rivers Act of 1968, amended 1986
- National Environmental Policy Act (NEPA) of 1969 (as amended)
- Clean Air Act of 1970 (as amended)
- Coastal Zone Management Act (CZMA) of 1972 (as amended)
- Alaska Native Claims Settlement Act (ANCSA) of 1971
- Marine Mammal Protection Act of 1972
- Endangered Species Act (ESA) of 1973 (as amended)

1 Purpose and Need

- Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 (as amended)
- National Forest Management Act (NFMA) of 1976 (as amended)
- Clean Water Act of 1977 (as amended)
- American Indian Religious Freedom Act of 1978
- Alaska Native Interest Lands Conservation Act (ANILCA) of 1980
- Archeological Resource Protection Act of 1980
- Cave Resource Protection Act of 1988
- Tongass Timber Reform Act (TTRA) of 1990
- Magnuson-Stevens Fishery Conservation and Management Act of 1996
- Executive Order 11593 (cultural resources)
- Executive Order 11988 (floodplains)
- Executive Order 11990 (wetlands)
- Executive Order 12898 (environmental justice)
- Executive Order 12962 (aquatic systems and recreational fisheries)
- Executive Order 13007 (American Indian Sacred Sites)

Chapter 2

Alternatives

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Chapter 2

Alternatives

Introduction

This chapter summarizes the development of alternatives to meet the Purpose and Need and respond to the significant issues, as described in Chapter 1. The proposed action and alternatives, including a No-Action Alternative, are described and compared. It includes a discussion of:

- the development of the project unit pool and Proposed Action,
- the action alternatives that were developed for the Woodpecker Project Area,
- an overview of design elements and mitigation measures,
- a description and map of each alternative considered in detail,
- a comparison of these alternatives focusing on the evaluation criteria for the significant issues,
- monitoring plan for the mitigation measures,
- alternatives eliminated from detailed study, and
- design options for the small old-growth habitat reserves within the Woodpecker Project Area.

Chapter 2 is intended to present the alternatives in comparative form to provide a basis for choice among options by the responsible official and the public. Some of the information used to compare alternatives in Chapter 2 is summarized from Chapter 3, "Affected Environment and Environmental Consequences."

Alternative Changes Between Draft and Final

A new Alternative (Alternative 6) was developed by modifying the Preferred Alternative (Alternative 2) in the Draft EIS to respond to concerns from public comments on the Draft EIS. Changes include:

- Several units (Units 123, 125, 128, and 129) containing high value deer winter habitat were not included in this alternative.
- Several units (Units 88, 90e, 109, 110, 119, 119a) were added. These units will be helicopter logged by removing trees dispersed across the stand, with 50-66 percent retention.
- The harvest treatment was changed from 75 percent retention to 20-30 percent retention for two small units (units 102 and 103) and from 75 percent to 50-66 percent retention for Units 104b and 104c.
- The recreation projects from Alternative 5 were included.
- A 300-foot section of unclassified road that junctions with Road 40004 will be decommissioned and allowed to return to a more natural state with vegetation and natural drainage patterns.

Information was added to the Unit Card Narratives. The information added for each proposed harvest unit includes:

- Acres by volume strata
- The VCU containing the unit
- Whether the unit is within the Crystal Inventoried Roadless Area
- Estimated harvest volume for each alternative
- Whether windthrow is a concern in the unit and what mitigation measures will be implemented

The status of the watershed improvement projects and five stream crossing structures in the project area that have the potential to restrict fish passage has been updated. A separate project decision has been made. Implementation has begun on the revegetation projects and a contract has been awarded to begin the survey, design, and reconstruction of four of the five stream crossing structures. These projects are included in the Final EIS because they were part of the analysis for the Draft EIS.

Updates concerning information on the most recent State of Alaska proposals (Southeast Alaska Transportation Plan and the Central/Southern Southeast Area Plan) were made.

Information on the new policy and legislation affecting National Forests as they relate to the Woodpecker Project Area was updated – including the Roadless Area Conservation Rule, the National Forest System Road Management Rule, and the Secure Rural Schools and Community Self-Determination Act (supercedes the 25 Percent Fund).

Any new field information was incorporated.

Information requests made through comments to the draft were incorporated when appropriate.

Alternative Development Process

Landscape Level Analysis

The Mitkof Island Landscape Design planning area included all of Mitkof Island, which is about 150,000 acres. The Woodpecker Project Area (approximately 33,000 acres) was included in the Mitkof Island Landscape Design planning process. In order to integrate the various resource conditions, objectives, and opportunities, an interdisciplinary team (IDT) conducted a landscape analysis of Mitkof Island. The landscape analysis identified possible projects for many resources, and scheduled them for consideration for environmental analysis. The Woodpecker Project Area was selected for timber harvest consideration because of the relatively large number of suitable timber acres available. Projects for other resources were included if the timing and economic considerations made them feasible. The current and desired future conditions of the landscape, and applicable goals and objectives of the Forest Plan (see discussion of Purpose and Need in Chapter 1), were factors in this selection.

Ten-year Timber Sale Schedule

Using the Mitkof Island landscape level analysis as a basis, potential timber sale projects were identified for the ten-year sale schedule. Several projects were combined to facilitate analysis. A preliminary analysis was done to see if this project was feasible. This analysis, called the Position Statement or Timber Sale Project Plan, identifies resource concerns and determines whether a timber sale in an area could be feasible based on economics and resource concerns. The Woodpecker Project Area Position Statement documents the landscape analysis process and is part of the Woodpecker Project Area planning record. This process is the Gate 1 portion of timber sale scheduling as explained in Appendix A.

2 Alternatives

Unit Pool Development for the Woodpecker Project Area

A unit pool consists of all proposed timber harvest units. A unit may be in all action alternatives, several alternatives, or just one alternative. The unit pool for the Woodpecker Project Area was initially based on all the commercial forest lands classified as suitable for timber production in the Forest Plan. Field verification of this unit pool done during the development of the Logging Systems and Transportation Analysis ensured that all the units were suitable for timber harvest. Additional analysis of this unit pool and development of the alternatives from public comments led to deferring or dropping many potential timber harvest units from further consideration at this time. Some of this analysis is described later in this chapter under "Alternatives Considered but Eliminated From Detailed Study."

Based on short- and long-term landscape or resource objectives, the Interdisciplinary Team assigned preliminary timber harvest prescriptions for each potential harvest unit. Several prescriptions may be developed for the same unit based on the objectives of the alternative.

Public Scoping, Significant Issues, and Alternatives to the Proposed Action

The Interdisciplinary Team used information from public scoping to identify the significant issues for the project (see Chapter 1). These issues, in conjunction with the field-verified unit and related resource information, were used to formulate different alternatives to respond to one or more of these issues. The Proposed Action and each action alternative presented in this EIS provide a different response to the significant issues. For example, if a project issue concerned the construction of new roads, then an alternative that selected units already accessed by roads was developed. Each action alternative is also designed to meet the purpose and need for the Woodpecker Project Area, and the project-specific desired future conditions.

Each action alternative represents a site-specific proposal developed through intensive interdisciplinary evaluation of timber harvest units and road design, based on field verification. Unit identification and design also made use of topographic maps and aerial photos, and resource data available in geographic information system (GIS) format.

Items Common to All Action Alternatives

The Forest Service uses many measures to mitigate or prevent negative impacts to the environment in the planning and implementation of land management activities. The application of these measures begins during the planning and design phases of a project. These mitigation measures are used to design proposed units and roads. Other mitigation measures

are incorporated during the implementation of the projects. See the Mitigation section later in this chapter, and in Appendix B.

All applicable Forest Plan Land Use Designation standards and guidelines have been incorporated. Additional direction comes from the Alaska Regional Guide, and applicable Forest Service manuals and handbooks.

The following items are some of the key direction from the Forest Plan. Appendix B of this EIS contains a project-specific mitigation section and activity cards with design elements specific to each harvest unit and road.

Beach and Estuary Buffers

The Forest Plan directs that beach and estuary buffers extend 1,000 feet inland from mean high tide along all marine coastlines. Programmed timber harvest is not allowed within these buffers, and roads are located outside these areas when feasible alternatives are available. No timber harvest or new roads are proposed within the beach fringe.

Fish Habitat and Water Quality

Riparian Management Areas are areas of special concern for fish, other aquatic resources, and wildlife values. These areas are delineated according to the process group direction in the Riparian Forest-wide Standards and Guidelines. Timber harvest is not proposed within any Riparian Management Area for this project.

To protect fish habitat and water quality, Forest Plan standards and guidelines for riparian areas are applied to all fish streams, and to non-fish-bearing Class III and Class IV streams within the Woodpecker Project Area. This protection exceeds the requirements of the Tongass Timber Reform Act (TTRA), which mandates at least a 100-foot no-commercial-timber-harvest buffer zone on each side of all Class I streams and on those Class II streams which flow directly into Class I streams. No adjustments from the Forest Plan standards and guidelines were made to Riparian Management Area boundaries in the Woodpecker Project Area.

Best Management Practices will be employed to minimize the risk of land management activities impairing water quality. Road card narratives describe streams that are likely to require specific protection measures during implementation, such as timing restrictions for in-stream activities, or site-specific design of stream-crossing structures. Fish passage will be restored at five stream crossings on Road 6245 that have the potential to restrict fish passage. This will be accomplished by installing new structures or by modifying the existing structures to meet design criteria.

2 Alternatives

Soils

A few areas with slopes greater than 72 percent, but with low levels of risk are included in the unit pool. Road locations avoid slopes greater than 67 percent, unstable areas, and slide-prone areas where it is feasible to do so. Where it is not possible to avoid these areas, special provisions are specified to protect soil and water quality.

Wetlands

All roads have been located and will be designed to avoid or minimize effects on wetlands.

Scenery

Proposed harvest units have been designed or harvest treatments have been prescribed that will meet or exceed the visual quality objective determined by the land use designation.

Some areas within the viewshed of a Visual Priority Travel Route or Use Area as identified in the Forest Plan were deferred to avoid cumulative effects to scenery.

Great Blue Heron Rookery and Raptor Nests

Surveys were completed for goshawks, other raptors, and great blue heron. One great blue heron rookery was found within a proposed unit. The unit boundary was modified to exclude the rookery according to Forest Plan standards and guidelines. A red-tailed hawk nest was found in July 2001 and will be protected according to the Forest Plan standards and guidelines.

Threatened, Endangered and Sensitive Species

Biological evaluations for all sensitive species potentially inhabiting the Woodpecker Project Area have been completed. The Forest Plan contains standards and guidelines for each designated sensitive species, and these are incorporated into the project as applicable.

Biological assessments have been completed between the draft and final EISs for the two threatened or endangered species potentially affected by the proposed activities. This includes the humpback whale (endangered) and the Steller sea lion (threatened). Consultation with the National Marine Fisheries Service has occurred according to the timeline specified by the Endangered Species Act. Standards and guidelines have been applied as needed to ensure that any listed species or its habitat will not be adversely affected.

Consultation with the U.S. Fish and Wildlife Service is not necessary because no threatened or endangered terrestrial species are known to occur in or near the Woodpecker Project Area.

Deer Winter Habitat

Potential impacts to deer winter habitat were mitigated by green tree retention in harvest units, avoiding some areas of high value deer winter habitat, small old-growth habitat reserve design, beach fringe, riparian buffers, and a 200-year rotation.

**High Value
Marten Habitat**

Harvest treatments that meet the Forest Plan guidelines for the protection of high value marten habitat were prescribed and will be implemented for harvest units that contain high value habitat.

**Waterfowl
Habitat**

Areas of high waterfowl use for nesting, rearing, and staging were avoided through unit and alternative design. Waterfowl buffers of 330 feet were identified where necessary.

**Green Tree
Retention**

Alternatives to traditional clearcutting harvest are prescribed for most units. Partial harvest is proposed to retain varying amounts of trees in the stand after harvest.

Where clearcutting is proposed, unmerchantable trees will be retained where feasible considering safety concerns. No openings over 100 acres in size will be created.

**Small Old-
growth Habitat
Reserves**

Design options for the three Forest Plan small old-growth habitat reserves within the Woodpecker Project Area were developed as part of the analysis. These design options are described in the old-growth habitat reserve design section at the end of this chapter and in the Biodiversity section of Chapter 3. None of these options affect any of the proposed activities in any alternative.

**Heritage
Resources**

Archaeologists have intensively surveyed areas considered to have a high probability of containing heritage resources. Some areas outside the high probability zone were surveyed to test the heritage resources predictive model. All identified heritage resources have been avoided. All proposed activities have received clearance from the Alaska State Historic Preservation Officer.

Logging Camps

Because of the proximity of the Woodpecker Project Area to Petersburg, no specific area for a land-based logging camp has been considered at this time. Appropriate permits will be required for any proposed logging camp, whether on land or water.

**Log Transfer
Facility (LTF)**

If a log transfer facility is needed, one of the existing permitted facilities on Mitkof Island could be used for any alternative.

Alternatives Considered in Detail

The No-Action Alternative (Alternative 1), Proposed Action (Alternative 2) and four other action alternatives were considered in detail. The Proposed Action represents the initial design to meet the Purpose and

2 Alternatives

Need. The other action alternatives represent different ways of satisfying the Purpose and Need by applying different emphases based on the significant issues discussed in Chapter 1. Figures 2-1 through 2-6 display the six alternatives considered in detail.

Site-specific descriptions and resource considerations for each potential harvest unit are included as unit cards in Appendix B of this EIS. These unit cards serve as the prescription or design narrative for the project. A range of retention for partial harvest has been proposed for many units. Each unit, if proposed for harvest, will have a target retention within this range at the time of sale implementation. Proposed roads and other proposed activities are also described in detail in Appendix B.

Alternative 1 - No Action

(Figure 2-1)

This alternative proposes no timber harvest, road construction, or other activities within the Woodpecker Project Area at this time. It does not preclude future timber harvest from this area. The Council on Environmental Quality (CEQ) regulations require that a "No-Action" alternative be analyzed in every EIS. The analysis of this alternative represents the existing condition of the Woodpecker Project Area.

Alternative 2 (Proposed Action)

(Figure 2-2)

The Proposed Action for the Woodpecker Project Area would harvest timber by road access, provide new dispersed recreation opportunities, improve parking areas for hunting and recreation access, determine road management objectives, and revegetate selected road cutbanks.

An estimated 1,140 acres would be partially harvested while retaining various amounts of trees within the stands. The amount of trees that would remain after harvest ranges from 20 percent to 75 percent of the stand. The amount of timber volume provided is estimated to be 12 million board feet, to be sold in multiple sales, including some sales of less than one million board feet. These sales are planned to be offered over a period of five or more years.

Approximately 4.8 miles of new classified¹ road would be built to access the timber. After harvest is completed, about 1.8 miles of this new classified road would remain open, and 3 miles would be closed and placed in storage. Approximately 6.1 miles of temporary road would also be built for timber access. All of the temporary roads would be decommissioned² after harvest. About 10 miles of existing classified roads (Roads 6280, 6281, 6283, 6284, 6287, and 40083) would be closed to motorized vehicles and placed in storage. No helicopter logging is proposed. Logs would be transported to an existing log transfer site or

¹ A road wholly or partially within or adjacent to National Forest System lands that is determined to be needed for long-term motor vehicle access, including state roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service.

² Decommissioning is defined as stabilization and restoration of unneeded roads to a more natural state.

processing yard. The existing Woodpecker Cove Log Transfer Facility located within the project area may be used.

Several recreation sites are proposed for development. These include dispersed picnic/camp sites near Wolf Track Lake and at the bridge west of Woodpecker Cove, expanding the path and adding a new picnic site in the Woodpecker Cove Demonstration Area, a picnic site with a short access trail overlooking Wrangell Narrows on Road 40003, and a new picnic/camp site along Road 6281.

New road turnouts would be developed and some existing turnouts would be enlarged along the Woodpecker Road (Road 6245) to provide additional safe parking areas. A segment of road would be constructed to create a loop by connecting the Woodpecker Road and Road 6282 to provide a new recreation opportunity. Road 6282, including this new extension, would be maintained for standard passenger vehicles. The Woodpecker Road, the Snake Ridge Road (Road 40006) and the beginning of Road 6246 would be improved for standard passenger vehicle use. Road 6286, the remainder of Road 6246, and the first half mile of Road 6281 would be maintained for high clearance vehicles. Road 6285, which provides access to the Woodpecker Cove Log Transfer Facility, will remain open to standard passenger vehicles.

Fish passage would be improved at five stream crossings on the Woodpecker Road that have the potential to restrict fish passage. This would be accomplished by either installing new structures or by modifying the existing structures to meet new design criteria.

To prevent possible degradation of water quality, several sites would be revegetated. These sites are generally associated with unvegetated road cutbanks. Planting will occur in contour rows using a method called brush hedge rows or cordons.

Alternative 3

(Figure 2-3)

An estimated 500 acres would be partially harvested while retaining various amounts of trees within the stands. The amount of trees that would remain after harvest ranges from 20 percent to 75 percent of the stand. The amount of timber volume provided is estimated to be 6 million board feet to be sold in multiple sales. Most sales would be less than 1 million board feet. These sales are planned to be offered over a period of five or more years.

No new classified road construction is proposed. Existing roads or short temporary roads would be used to access timber. Approximately four miles of temporary road would be built to access the timber. All of the temporary roads would be decommissioned after harvest. About 10 miles of existing classified roads (Roads 6280, 6281, 6283, 6284, 6287, and

2 Alternatives

40083) would be closed to motorized vehicles and placed in storage. The Snake Ridge Road (Road 40006) would be upgraded to reduce potential erosion and to provide better access to Crystal Mountain. No helicopter logging is proposed. Logs would be transported to an existing log transfer site or processing yard. The existing Woodpecker Cove Log Transfer Facility located within the project area may be used.

Fish passage would be improved at five stream crossings on the Woodpecker Road that have the potential to restrict fish passage. This would be accomplished by either installing new structures or by modifying the existing structures to meet new design criteria.

No new recreation or watershed improvement projects are included. The loop road would not be built.

Alternative 4

(Figure 2-4)

An estimated 1,850 acres would be partially harvested while retaining various amounts of trees within the stands. The amount of trees that would remain after harvest ranges from 20 percent to 75 percent of the stand. The amount of timber volume provided is estimated to be 17 million board feet, to be sold in multiple sales, including sales of less than 1 million board feet. These sales are planned to be offered over a period of five or more years.

No new classified roads would be built. Existing roads or short temporary roads would be used to access the timber. Approximately three miles of temporary road would be built for timber access. All of the temporary roads would be decommissioned after harvest. About 10 miles of existing classified roads (Roads 6280, 6281, 6283, 6284, 6287, and 40083) would be closed to motorized vehicles and placed in storage. Logs would be transported to an existing log transfer site or processing yard. Woodpecker Cove Log Transfer Facility, located within the project area, may be used.

Several recreation sites are proposed for development. These include dispersed picnic/camp sites near Wolf Track Lake and at the bridge west of Woodpecker Cove, expanding the path and adding a new picnic site in the Woodpecker Cove Demonstration Area, a picnic site with a short access trail overlooking Wrangell Narrows on Road 40003, and a new picnic/camp site along Road 6281.

New road turnouts would be developed and some existing turnouts would be enlarged along the Woodpecker Road (Road 6245) to provide additional safe parking. The loop road connection in Alternative 2 would not be built. The Woodpecker Road, the Snake Ridge Road (Road 40006) and the beginning of Road 6246 would be improved for standard passenger vehicle use. Road 6286, the remainder of Road 6246, and the

first half mile of Road 6281 would be maintained for high clearance vehicles. Road 6285, which provides access to the Woodpecker Cove Log Transfer Facility, will remain open to standard passenger vehicles.

Fish passage would be improved at five stream crossings on the Woodpecker Road that have the potential to restrict fish passage. This would be accomplished by either installing new structures or by modifying the existing structures to meet new design criteria.

To prevent possible degradation of water quality, several sites would be revegetated. These sites are generally associated with unvegetated road cutbanks. Planting will occur in contour rows using a method called brush hedge rows or cordons.

Alternative 5

(Figure 2-5)

An estimated 1,670 acres would be partially harvested while retaining various amounts of trees within the stands, and 60 acres would be clearcut. The amount of trees that would remain after harvest ranges from 0 percent to 75 percent of the stand. The amount of timber volume provided is estimated to be 27 million board feet to be sold in multiple sales, including sales less than 1 million board feet. These sales are planned to be offered over a period of five or more years.

Alternative 5 includes both new road construction and helicopter logging from existing roads. Approximately 3.5 miles of new classified road would be built to access the timber. After harvest is completed, about 1 mile of this new classified road would remain open, and 2.5 miles would be closed and placed in storage. Temporary road segments, which total 4.1 miles, would be built for timber access. All of the temporary roads would be decommissioned after harvest. About 10 miles of existing classified roads (Roads 6280, 6281, 6283, 6284, 6287, and 40083) would be closed to motorized vehicles and placed in storage.

Logs would be transported to an existing log transfer site or processing yard. The existing Woodpecker Cove Log Transfer Facility, located within the project area, may be used.

Several recreation sites are proposed for development. These include dispersed picnic/camp sites near Wolf Track Lake and at the bridge west of Woodpecker Cove, expanding the path and adding two new picnic sites in the Woodpecker Cove Demonstration Area, a picnic site with a short access trail overlooking Wrangell Narrows on Road 40003, and a new picnic/camp site along Road 6281.

New road turnouts would be developed and some existing turnouts would be enlarged along the Woodpecker Road (Road 6245) to provide additional safe parking. The loop road connection in Alternative 2 would

2 Alternatives

not be built. The Woodpecker Road, the Snake Ridge Road (Road 40006) and the beginning of Road 6246 would be improved for standard passenger vehicle use. Road 6286, the remainder of Road 6246, and the first half mile of Road 6281 would be maintained for high clearance vehicles. Road 6285, which provides access to the Woodpecker Cove Log Transfer Facility, will remain open to standard passenger vehicles.

Fish passage would be improved at five stream crossings on the Woodpecker Road that have the potential to restrict fish passage. This would be accomplished by either installing new structures or by modifying the existing structures to meet new design criteria.

To prevent possible degradation of water quality, several sites would be revegetated. These sites are generally associated with unvegetated road cutbanks. Planting will occur in contour rows using a method called brush hedge rows or cordons.

Alternative 6 (Preferred Alternative)

(Figure 2-6)

An estimated 1,300 acres would be partially harvested while retaining various amounts of trees within the stands. The amount of trees that would remain after harvest ranges from 20 percent to 75 percent of the stand. The amount of timber volume provided is estimated to be 16 million board feet to be sold in multiple sales, including sales less than 1 million board feet. These sales are planned to be offered over a period of five or more years.

Alternative 6 includes both new road construction and helicopter logging from existing roads. Approximately 4.8 miles of new classified road would be built to access the timber. After harvest is completed, about 1.8 miles of this new classified road would remain open, and 3 miles would be closed and placed in storage. Temporary road segments, which total 3.8 miles, would be built for timber access. All of the temporary roads would be decommissioned after harvest. About 10 miles of existing classified roads (Roads 6280, 6281, 6283, 6284, 6287, and 40083) would be closed to motorized vehicles and placed in storage. A short (300-ft) unclassified³ road off of Road 40004 will be decommissioned and allowed to return to a more natural state.

Logs would be transported to an existing log transfer site or processing yard. The existing Woodpecker Cove Log Transfer Facility, located within the project area, may be used.

³ A road on National Forest System lands that is not managed as part of the forest transportation system, such as an unplanned road, abandoned travelway, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization

Several recreation sites are proposed for development. These include dispersed picnic/camp sites near Wolf Track Lake and at the bridge west of Woodpecker Cove, expanding the path and adding two new picnic sites in the Woodpecker Cove Demonstration Area, a picnic site with a short access trail overlooking Wrangell Narrows on Road 40003, and a new picnic/camp site along Road 6281.

New road turnouts would be developed and some existing turnouts would be enlarged along the Woodpecker Road (Road 6245) to provide additional safe parking. A segment of road would be constructed to create a loop by connecting the Woodpecker Road and Road 6282 to provide a new recreation opportunity. Road 6282, including this new extension, would be maintained for standard passenger vehicles. The Woodpecker Road, the Snake Ridge Road (Road 40006) and the beginning of Road 6246 would be improved for standard passenger vehicle use. Road 6286, the remainder of Road 6246, and the first half mile of Road 6281 would be maintained for high clearance vehicles. Road 6285, which provides access to the Woodpecker Cove Log Transfer Facility, will remain open to standard passenger vehicles.

Fish passage would be improved at five stream crossings on the Woodpecker Road that have the potential to restrict fish passage. This would be accomplished by either installing new structures or by modifying the existing structures to meet new design criteria.

To prevent possible degradation of water quality, several sites would be revegetated. These sites are generally associated with unvegetated road cutbanks. Planting will occur in contour rows using a method called brush hedge rows or cordons.

Comparison of Alternatives by Significant Issue

The following discussion focuses on how each alternative responds to each significant issue. The alternatives are rated against each other and the existing condition. Alternative 1 represents the existing condition. The existing condition will change over time for some resources even if no proposed activities are implemented. Table 2-1 at the end of this section contains information for all resources. This is an overview of the effects by alternatives. For a complete discussion, refer to the section for each resource in Chapter 3.

2 Alternatives

Issue 1 – Deer Hunting

In general, timber harvest reduces the amount of thermal cover available for deer, which has a negative effect on deer winter habitat carrying capacity. Much of this effect can be avoided by protecting the highest value deer winter habitat. Several areas of high value deer winter habitat within the Woodpecker Project Area were not included in the proposed timber harvest units for this project to allow existing harvested units to return to a more natural condition before scheduling new harvest activity.

Effects on deer winter habitat can be further reduced by green tree retention of the stand. Higher retention results in more snow interception, which makes it easier for the deer to forage. Another factor that has both negative and positive effects is the amount of classified road built and the amount of classified road that remains open after timber harvest. This influences the ease of access for hunting and may either increase or decrease the competition for deer throughout the Woodpecker Project Area. Other long-term effects are human population increases and canopy closure of second-growth stands, which decreases the amount of forage for deer.

Alternative 1 would have no effect on habitat for the current deer population. In 40 years, the population carrying capacity is expected to decrease as canopy closure occurs on second-growth stands. Alternative 3 would have the least impact of any of the action alternatives on deer hunting, both now and in the future, since the least amount of timber would be harvested and no new classified roads would be built.

Alternative 5 would have the most effect since the most timber would be harvested and many units retain only 20-30 percent of the stand rather than 50 percent or more. Alternative 2 would have less immediate effect than Alternative 4, but would have slightly more long-term effects, since Alternative 4 proposes a higher percentage of green tree retention in the harvest units. Alternative 6 would have slightly less effect than Alternative 2. Stands with a higher percentage of green tree retention would provide more protection in the winter compared to stands with scattered individual trees or clumps of trees.

Alternatives 2 and 6 would result in the most miles of new roads that would remain open after harvest, about 1.8 miles, compared to the other alternatives. Alternative 5 would result in one additional mile of road open after timber harvest. Alternatives 3 and 4 would not increase the amount of open road.

Issue 2 – Recreation

Where timber is harvested, the recreation setting changes from an experience of isolation or solitude to an experience that includes the presence of other humans. This is measured by changes in the Recreation Opportunity Spectrum (ROS). The ROS links the level of human

interaction that can be expected in an area with the type of recreation that is appropriate for the setting. Less evidence of human activity results in a more primitive or isolated experience. An experience is considered to be semi-primitive if an area has not been modified by human use but human activity is noticeable by the sounds, such as boat traffic and chainsaws, or sights, such as airplanes and views of modified landscapes. If evidence of human activity such as timber harvest or road construction is present, the recreation experience is considered less primitive and more interaction with other people is to be expected.

Alternatives 4 and 5 would change the most acres from a semi-primitive recreation setting to a less remote setting, where human activities are evident. Alternatives 2 and 6 would result in this change occurring on slightly more than about half of the number of acres compared to Alternatives 4 and 5. Alternative 3 would have the least effect on the current possible recreation experiences since all of the harvest would occur near adjacent roads.

The effect on current use levels would be minor for existing Recreation Places and Recreation Sites. Occupants of the special use cabin at December Point on the Wrangell Narrows may be affected by logging noise for short durations of time. The other two Recreation Places, Woodpecker Road (Road 6245) and Woodpecker Cove Demonstration Area, have planned improvements in Alternatives 2, 4, 5, and 6. These improvements include road turnouts and development of picnic sites. An increase in traffic on the Woodpecker Road would be expected during logging operations. There are no changes to these Recreation Places expected in Alternatives 1 and 3.

The Recreation Sites include the anchorages at December Point on the Wrangell Narrows and at Woodpecker Cove. Users of the anchorage at December Point may be affected by logging noise for short durations of time. When the Woodpecker Cove Log Transfer Facility is being used for log transport, recreationists using the site for boating may be temporarily displaced.

Effects on the existing recreational activities in the Woodpecker Project Area such as hunting, sport fishing, berry picking, and viewing by residents, tourists, and outfitter/guides are expected to be minimal in all alternatives. There may be increased traffic on some of the roads used for these activities during brief periods when logging is active, and some side roads may be closed during operations.

Several recreation projects are proposed in Alternatives 2, 4, 5, and 6. These include dispersed camping and picnic sites throughout the Woodpecker Project Area. This would increase recreation opportunities

2 Alternatives

and the level of development in a few areas. Turnouts along Road 6245 would be enlarged or created to provide more opportunities for recreationists to park safely and explore the area on foot. The connection of Road 6282 with Road 6245 may increase recreational driving on those roads.

Recreation use within the Woodpecker Project Area and adjacent areas, primarily saltwater, may be affected by the modifications to scenery as seen from the Visual Priority Routes and Use Areas. All alternatives retain varying numbers of green trees within the proposed units that can be seen. All Visual Quality Objectives have been met.

Alternative 5 would have the most effect on scenery primarily with proposed units and a road partially visible in the background view from Crystal Mountain. Alternative 2 would have the second highest effect, with some units partially visible from Sumner Strait and one road that may be partially visible from Crystal Mountain. Alternative 4 would have some portions of units visible from South Blind Slough and Crystal Mountain. Alternative 6 would have little effect on scenery. Alternative 3 would have the least effect, if any, on scenery from the Visual Priority Travel Routes and Use Areas.

Issue 3 - Economics

Timber economics depends on several factors. These factors include; amount of timber harvested, the value of the timber harvested, and the cost of harvesting the timber. More timber generally means a higher economic return to the Treasury and more jobs, or jobs over a longer period of time.

The value of the timber is determined by species composition, the amount of defect of the wood, and the value of the products that can be obtained from the wood. Classified road construction and the amount of helicopter logging are two items that increase the cost of timber harvest.

A financial analysis was done using the Transaction Evidence Appraisal system. Although the timber is planned to be sold in multiple sales, for this analysis all volume was included. This analysis showed that Alternative 3 would have the highest appraised value. Alternative 2 and Alternative 5 were very similar. Alternative 6 has a lower appraised value, but more volume, than Alternative 2. Alternative 4 had the lowest appraised value, due to the expense of helicopter logging.

Alternative 1 would not provide any timber for public consumption. Alternative 5 would produce the most timber, an estimated 27 million board feet. Alternative 3 would produce the least amount of timber, about 6 million board feet, or about 1/5 of the volume proposed in Alternative 5. Alternative 2 would provide about half as much timber

volume as Alternative 5. Alternatives 4 and 6 would provide about 2/3 of the amount of timber volume proposed in Alternative 5.

Alternative 4 proposes the greatest use of helicopter logging systems.

Alternative 5 would harvest about half of the proposed harvest area with helicopter logging. Alternative 6 would include some helicopter logging.

Alternatives 2 and 3 would use ground-based systems exclusively.

Alternatives 2 and 6 propose the most classified road construction, about 4.8 miles. Alternative 5 proposes about 3.5 miles of new classified road.

No new classified roads are proposed in Alternatives 3 or 4.

Issue 4 – Crystal Inventoried Roadless Area (#224)

The Forest Plan allocated Inventoried Roadless Areas to different land use designations based on their individual values. The part of the Crystal Inventoried Roadless Area within the Woodpecker Project Area was allocated to development land use designations. Therefore, all proposed activities, such as timber harvest, road construction, and development of dispersed recreation sites are consistent with the Forest Plan. All of the action alternatives would affect the Crystal Inventoried Roadless Area by reducing its size slightly. The remaining roadless area would still contain at least 5,000 acres with no roads or harvested areas. In all alternatives, the major values of the roadless area would remain.

Alternative 1 would not affect the existing roadless area. Alternatives 2 and 6 would build 2 miles of new classified road within the roadless area. Of these 2 miles, 0.8 miles would be left open after harvest. About 850 acres of the roadless area would be affected by partial harvest of timber in Alternative 2. About 840 acres would be affected in Alternative 6. Alternative 3 would have a minimal effect on the size of the roadless area. Alternative 3 would not build any new classified road within the roadless area. There would not be any timber harvest within the roadless area, but 140 acres adjacent to timber harvest units would be affected. Alternative 4 would not build any new classified road within the roadless area, but partial harvest of timber would affect 1,910 acres in the roadless area. Alternative 5 would build 1.4 miles of new classified road within the roadless area. Of these 1.4 miles, 0.8 miles would be left open after harvest. Alternative 5 would affect 1,860 acres of the roadless area by partial harvest of timber, and 20 acres of clearcut harvest. Alternative 5 would have the greatest effect on the size of the roadless area.

Roadless Area Conservation Rule

The Forest Service is reevaluating its Roadless Area Conservation Rule (Roadless Rule) and is currently enjoined from implementing all aspects of the Roadless Rule by the U.S. District Court, District of Idaho. The Woodpecker Project Area Draft EIS was issued prior to the deadline in the Roadless Rule, so this project could move forward regardless of the status of the Roadless Rule.

2 Alternatives

In *Sierra Club v. Lyons* (J00-0009 (CV)), the U.S. District Court, District of Alaska enjoined the Tongass National Forest from taking any action to change the wilderness character of any eligible roadless area until a supplemental environmental impact statement evaluating wilderness recommendations for roadless areas has been prepared. On May 23, 2001, the Judge temporarily lifted this injunction pending a hearing and further order from the Court. On June 7, 2001, the Chief of the Forest Service reserved the right to make all land management decisions involving timber management and road construction within Inventoried Roadless Areas.

National Forest System Road Management Rule

The Woodpecker Project Area Final EIS is consistent with the Forest Service Transportation Final Administrative Policy (Roads Rule). Among other direction, the Roads Rule requires that an area-specific roads analysis be completed and a determination of need for amendment or revision of the Forest Plan be made if any roads are to be constructed or reconstructed in inventoried roadless or contiguous unroaded areas, until a forest-wide roads analysis has been completed (FSM 7712.16(c)). This analysis has been made for the Woodpecker Project Area and can be found in the Mitkof Island Roads Analysis, on file at the Petersburg Ranger District. A separate interim directive (7710-2001-1) extends the deadlines for requiring roads analysis for all road management decisions to January 12, 2002 (FSM 7712.15), but does not apply to FSM 7712.16.

Identification of Preferred Alternative

The Forest Service has identified Alternative 6 as the Preferred Alternative for the Final EIS. This alternative was developed by modifying Alternative 2, the Preferred Alternative identified in the Draft EIS, to respond to public and agency comments.

Table 2-1. Comparison of Alternatives by Proposed Activity

Proposed Activity	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Acres of Timber harvest by harvest treatment						
75% retention	0	570	140	740	200	380
50-66% retention	0	350	200	990	530	680
20-30% retention	0	220	160	120	940	240
0% retention	0	0	0	0	60	0
Acres of Timber harvest by logging systems						
Cable	0	990	350	310	640	750
Shovel	0	150	150	150	150	150
Helicopter	0	0	0	1390	940	400
Road construction						
Miles of new classified roads	0	4.8	0	0	3.5	4.8
Miles of new classified roads left open	0	1.8	0	0	1.0	1.8
Miles of temporary roads (closed after harvest)	0	6.1	3.9	3.1	4.1	3.8
Number of Recreation projects						
Picnic/Campsites	0	7	0	7	8	8
Turnouts	0	4	0	4	4	4
Number of Watershed projects¹						
Fish passage	0	5	5	5	5	5
Revegetation	0	5	0	5	5	5

¹ The District Ranger, Petersburg Ranger District, has made a separate project decision to approve these watershed projects, which includes the revegetation projects and the reconstruction of stream crossing structures to improve fish passage. Implementation has begun on the revegetation projects to stabilize and mitigate effects on these areas. A contract has been awarded to begin the survey, design, and reconstruction of four of the five stream crossing structures.

2 Alternatives

Table 2-2. Comparison of Alternatives by Effects

Units of Measure	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Issue 1 – Deer Hunting						
Change in deer carrying capacity year 2003 ¹	0%	-1.5%	-0.9%	-1.8%	-2.4%	-1.4%
Change in deer carrying capacity year 2043 ²	-9.6%	-11.3%	-10.5%	-11.2%	-12.7%	-11.2%
Effect on historical levels of subsistence deer harvest?	yes	yes	yes	yes	yes	yes
Effect on current levels of deer harvest?	no	no	no	no	no	no
Issue 2 – Recreation						
Acres changed from semi-primitive to roaded settings ³	0	1270	260	2280	2230	1365
% of area changed from semi-primitive to roaded settings	0	13%	3%	25%	24%	14%
Issue 3 – Economics						
Amount of volume (mbf)	0	12,300	5,700	16,800	26,800	16,300
Amount of volume (ccf)	0	25,200	11,600	34,200	54,200	30,870
Appraised value (\$/ccf)	0	\$15.38	\$35.24	\$5.63	\$15.31	\$12.35
Issue 4 – Crystal Inventoried Roadless Area (IRA)						
Acres within the IRA affected by timber harvest	0	310 acres	0	830 acres	800 acres	370 acres
Miles of new classified road within the IRA	0	2.0 miles	0	0	1.4 miles	2.0 miles
Acres affected by timber harvest, including areas within 600 ft of harvest units	0	850 acres	140 acres	1910 acres	1860 acres	840 acres
Remaining size of IRA excluding acres within 600 ft of harvest units	18,320 acres	17,470 acres	18,180 acres	16,410 acres	16,460 acres	17,480 acres
Other Environmental Considerations						
Biodiversity						
Acres of old-growth habitat maintained	14,250	13,820	14,020	13,920	13,170	13,850
Effects on TES Species						
Effects on TES Species	None	None	None	None	None	None
Other Wildlife						
Percent change in marten carrying capacity by year 2003 ¹	0%	-1.8%	-1.1%	-2.4%	-3.3%	-1.9%
Percent change in marten carrying capacity by year 2043 ²	-1.7%	-3.2%	-2.5%	-2.9%	-4.7%	-3.1%
Water Quality						
Number of new Class I stream crossings	0	0	0	0	0	0
Number of new Class II stream crossings	0	2	1	1	2	2
Number of new Class III stream crossings	0	13	1	1	11	13
Number of new Class IV stream crossings	0	2	0	0	2	2
Wetlands						
Miles of new permanent road on wetlands	0	1.1	0	0	1.1	1.1
Effects on Subsistence other than deer						
Effects on Subsistence other than deer	None	None	None	None	None	None
Effects on Heritage Resources						
Effects on Heritage Resources	None	None	None	None	None	None
Effects on Land Status						
Effects on Land Status	None	None	None	None	None	None
Effects on Karst						
Effects on Karst	None	None	None	None	None	None
Transportation						
Miles of new classified roads	0	4.8	0	0	3.5	4.8
Miles of new classified roads left open	0	1.8	0	0	1.0	1.8
Miles of temporary roads (decommissioned after harvest)	0	6.1	3.9	3.1	4.1	3.8
Road density for Mitkof Island (mi/mi ²)	0.68	0.69	0.68	0.68	0.68	0.69
Effects on Wild, Scenic and Recreational Rivers						
Effects on Wild, Scenic and Recreational Rivers	None	None	None	None	None	None

¹ For the purposes of alternative comparison and analysis only, it was assumed that all harvest would occur by 2003, for the deer and marten models.

² At year 2043, the canopies of the existing second-growth stands will completely close, reducing forage. No future thinning has been taken into account.

³ For total acreages in each Recreation Opportunity Spectrum class for each alternative, refer to Table 3-4 in Chapter 3.

Kupreanof Island

Woewodski Island

Mitkof Island

Blind Slough

Mitkof Highway

Crystal Lake

Wrangell Narrows

December Point

Wolf Track Lake

Woodpecker Cove Demo Area

Woodpecker Cove LTF

Olson's LTF

South Blind Slough

Woodpecker Project Area Figure 2-1

Alternative 1

LEGEND

- Productive Old Growth
- Existing Managed Stands
- Non-National Forest System Lands
- Lakes
- Salt water
- Streams
- Project Area Boundary
- Existing Road
- 500ft Contours

Chapter 2-21

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Alternative 2

Proposed Partial Harvest Units
75 percent retention

Proposed Partial Harvest Units
50-66 percent retention

Proposed Partial Harvest Units
20-30 percent retention

Proposed Clearcut Units

Existing Managed Stands

Non-National Forest System Lands

Lakes

Saltwater

Crystal Inventoried Roadless Area

Streams

Project Area Boundary

Existing Road

Proposed Road

Proposed Temporary Road

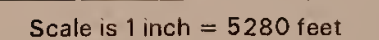
500ft Contours

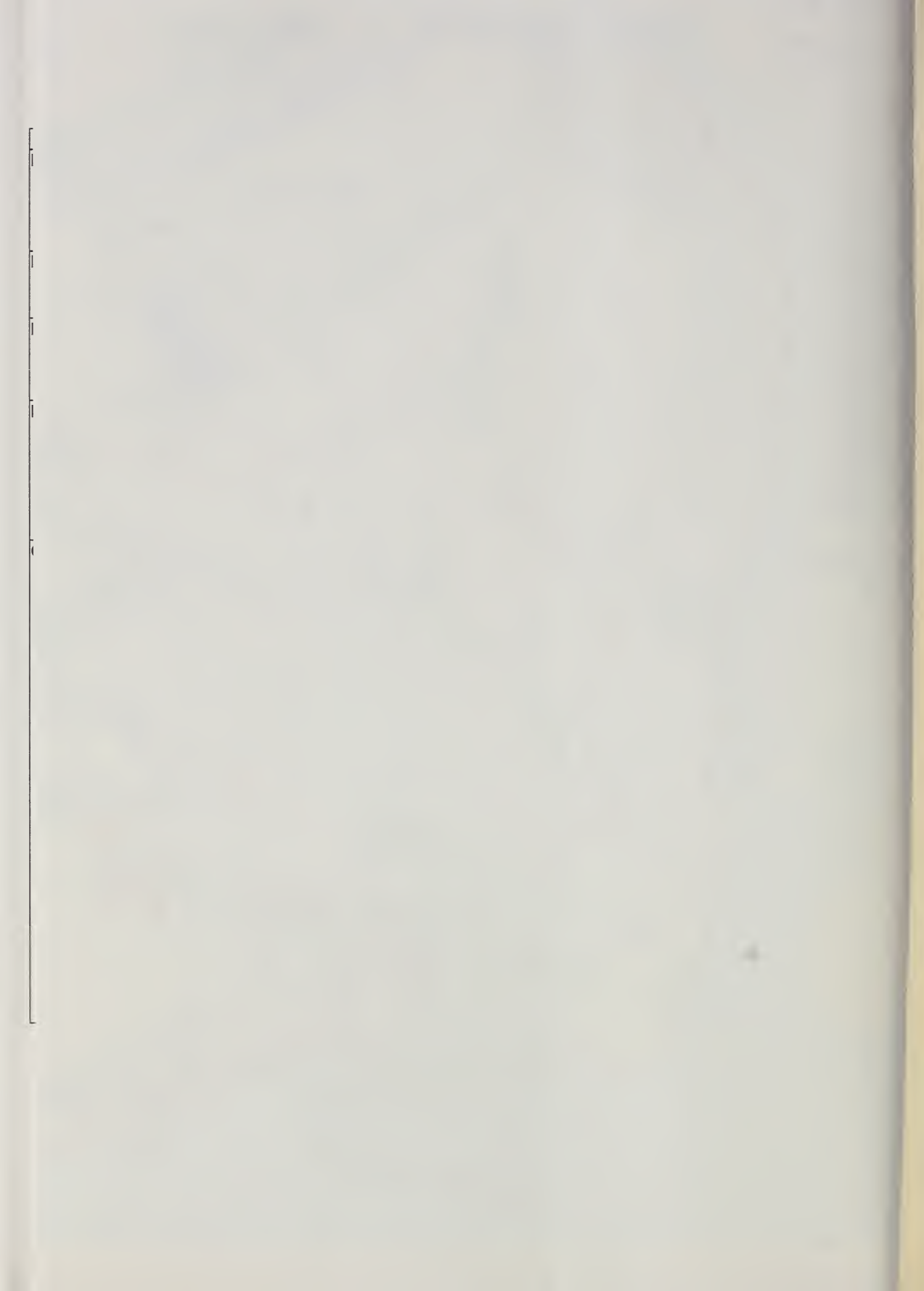
Proposed Recreation Project

Watershed Improvement Project*

Reconstruction of Stream Crossing Structures*

Chapter 2-23



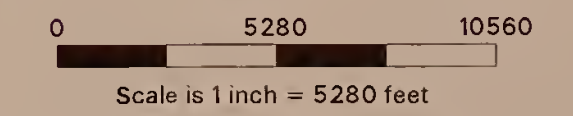


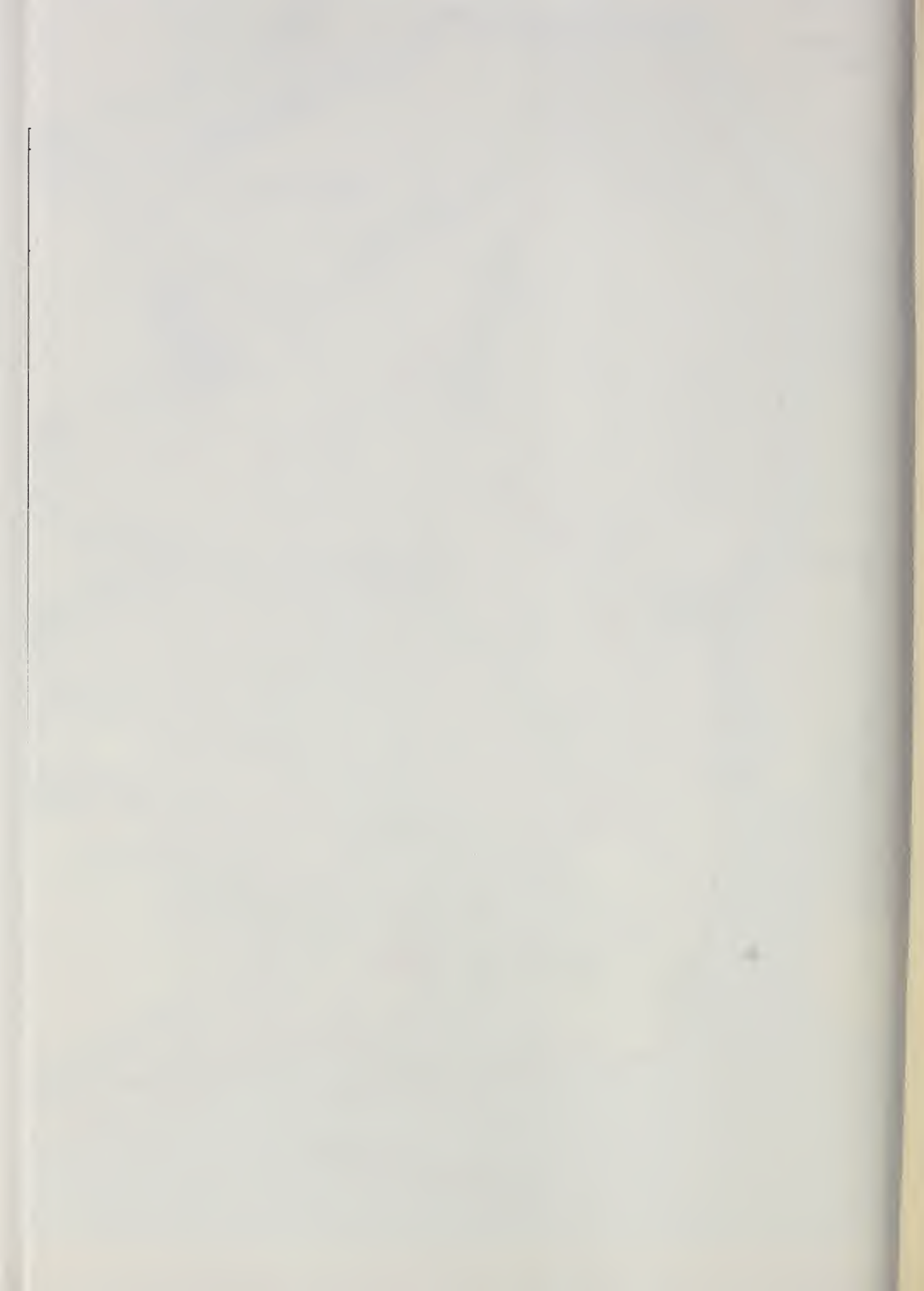


Woodpecker Project Area Figure 2-3 Alternative 3

- LEGEND**
- Proposed Partial Harvest Units
75 percent retention
 - Proposed Partial Harvest Units
50-66 percent retention
 - Proposed Partial Harvest Units
20-30 percent retention
 - Proposed Clearcut Units
 - Existing Managed Stands
 - Lakes
 - Non-National Forest System Lands
 - Saltwater
 - Crystal Inventoried Roadless Area
 - Streams
 - Project Area Boundary
 - Existing Road
 - Proposed Road
 - Proposed Temporary Road
 - 500ft Contours
 - Reconstruction
of Stream Crossing Structures*

*Covered by seperate project decision







Woodpecker Project Area Figure 2-4

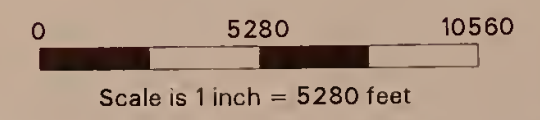
Alternative 4

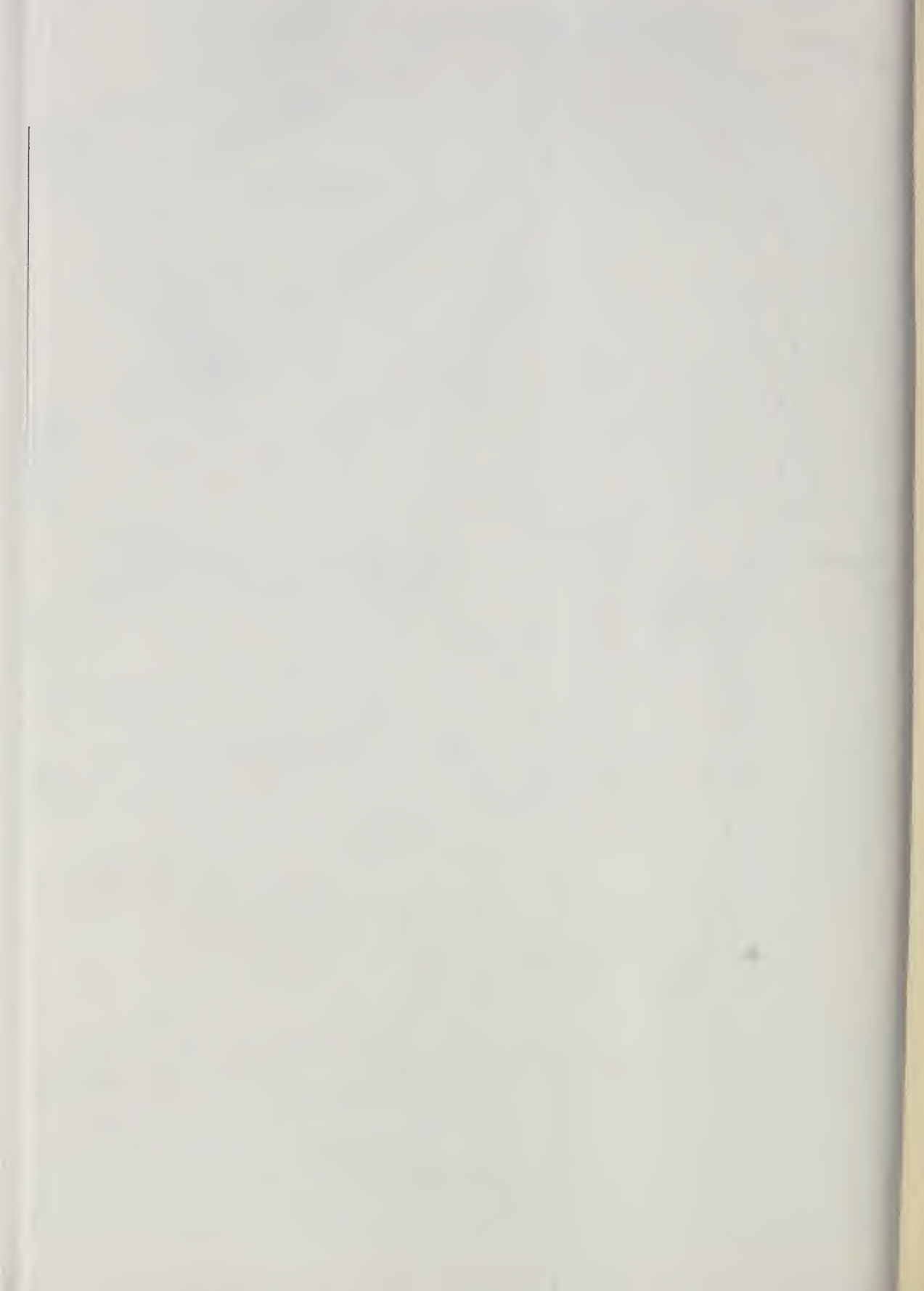
LEGEND

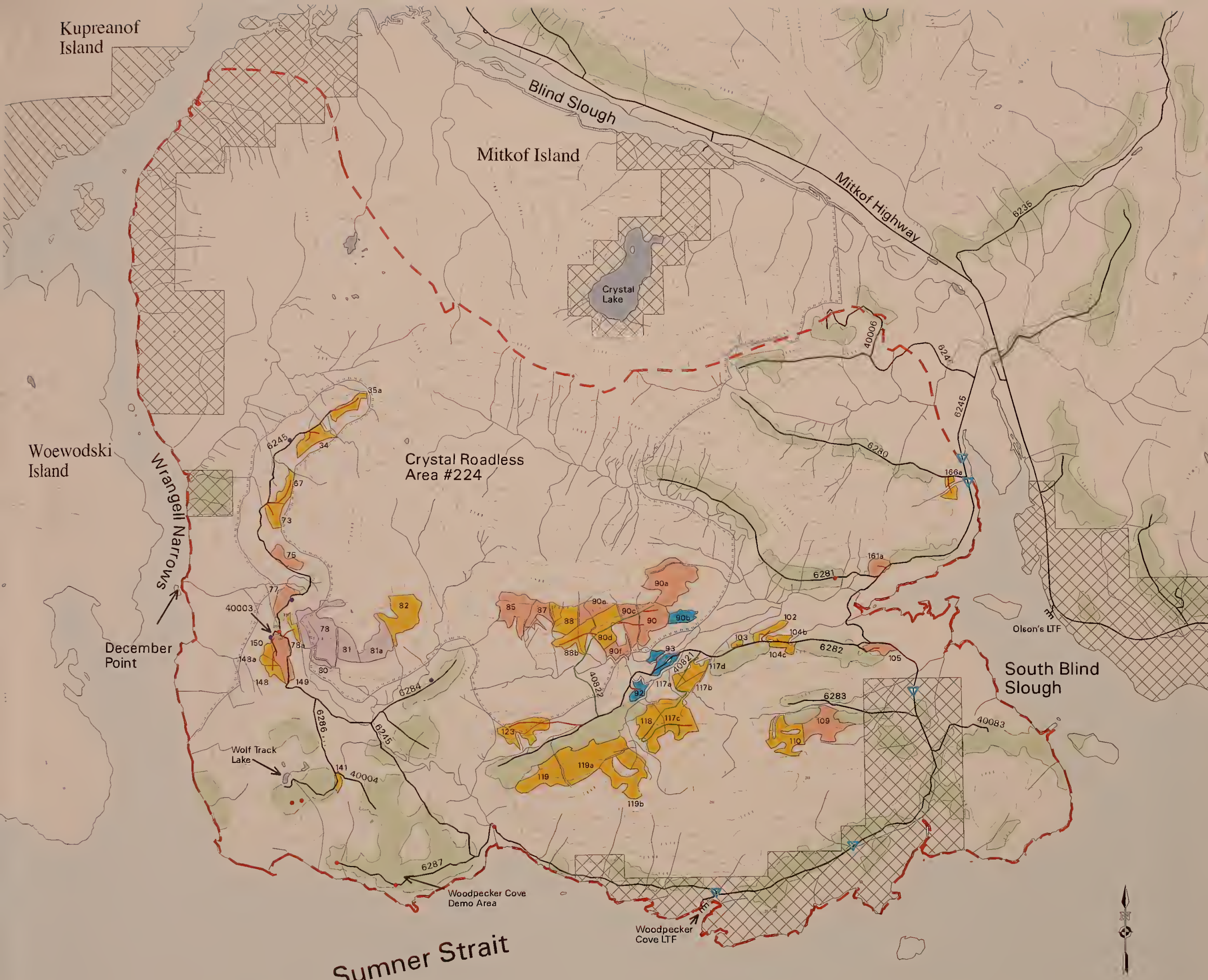
- Proposed Partial Harvest Units
75 percent retention
- Proposed Partial Harvest Units
50-66 percent retention
- Proposed Partial Harvest Units
20-30 percent retention
- Proposed Clearcut Units
- Existing Managed Stands
- Non-National Forest System Lands
- Lakes
- Saltwater
- Crystal Inventoried Roadless Area
- Streams
- Project Area Boundary
- Existing Road
- Proposed Road
- Proposed Temporary Road
- 500ft Contours
- Proposed Recreation Project
- Watershed Improvement Project*
- Reconstruction of Stream Crossing Structures*

* Covered by separate project decision

Chapter 2-27







Woodpecker Project Area Figure 2-5

Alternative 5

LEGEND

- Proposed Partial Harvest Units
75 percent retention
- Proposed Partial Harvest Units
50-66 percent retention
- Proposed Partial Harvest Units
20-30 percent retention
- Proposed Clearcut Units
- Existing Managed Stands
- Non-National Forest System Lands
- Lakes
- Saltwater
- Crystal Inventoried Roadless Area
- Streams
- Project Area Boundary
- Existing Road
- Proposed Road
- Proposed Temporary Road
- 500ft Contours
- Proposed Recreation Site
- Watershed Improvement Project *
- Reconstruction of Stream Crossing Structures *

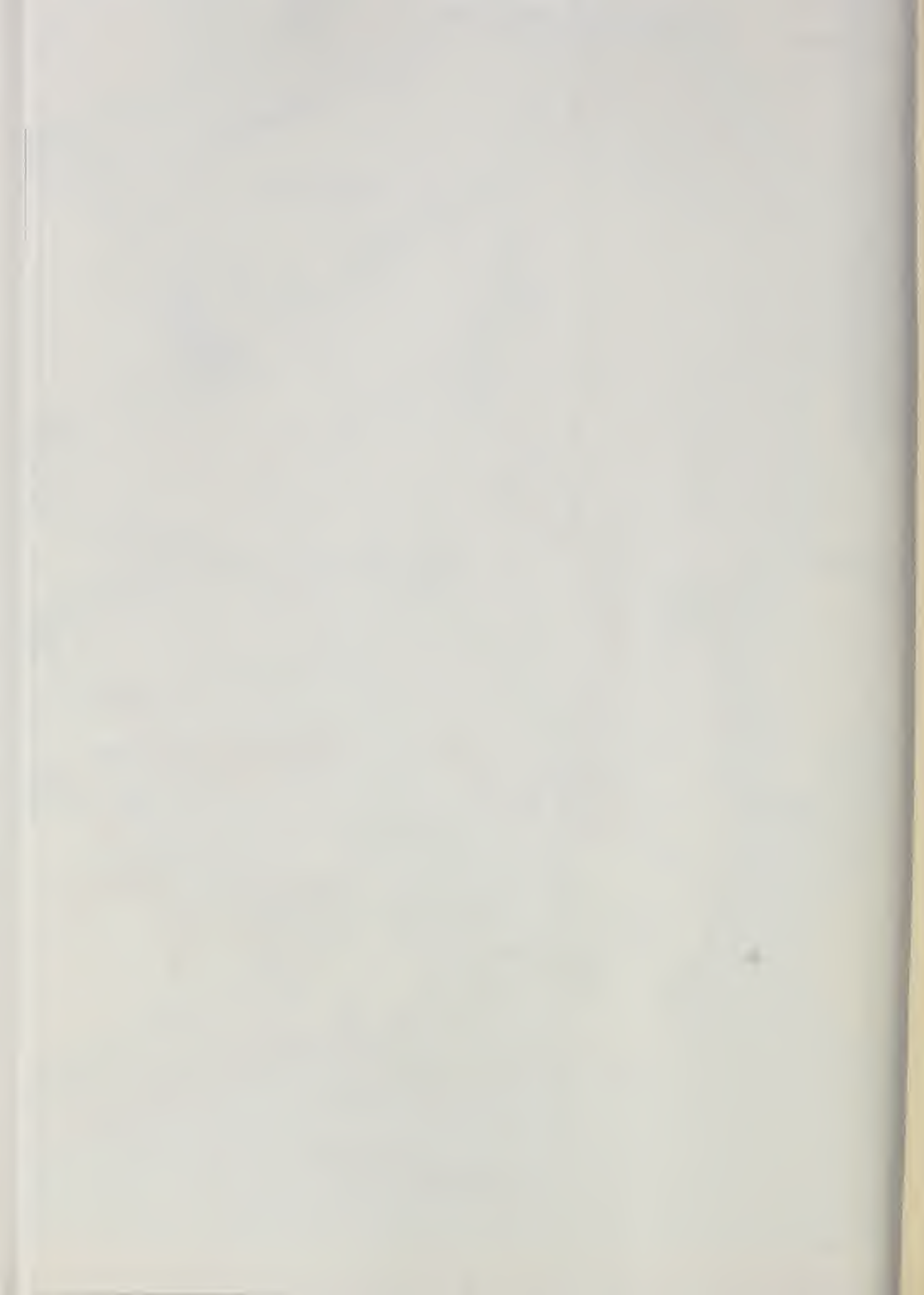
* Covered by separate project decision

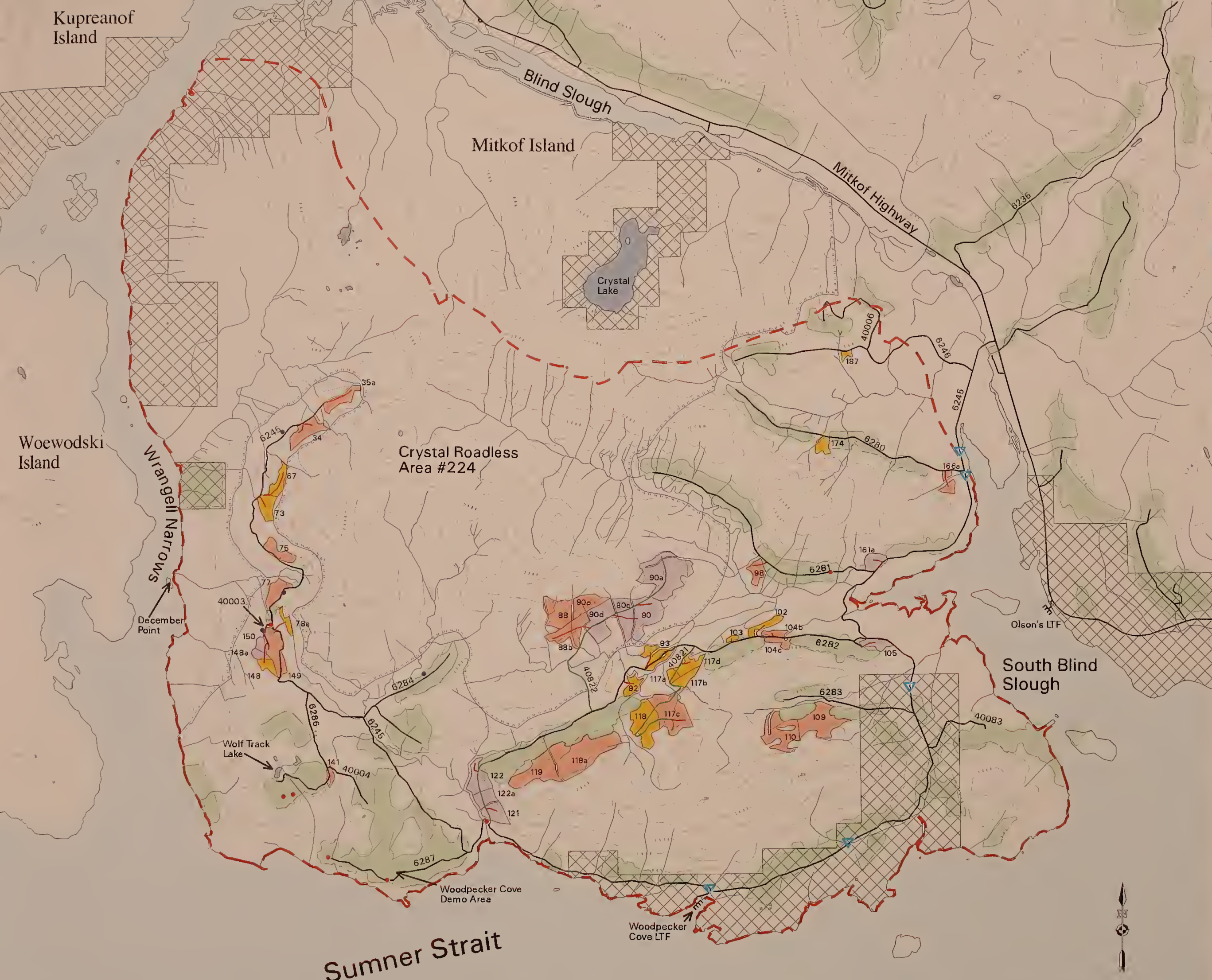
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Scale is 1 inch = 5280 feet

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Woodpecker Project Area Figure 2-6

Alternative 6

LEGEND

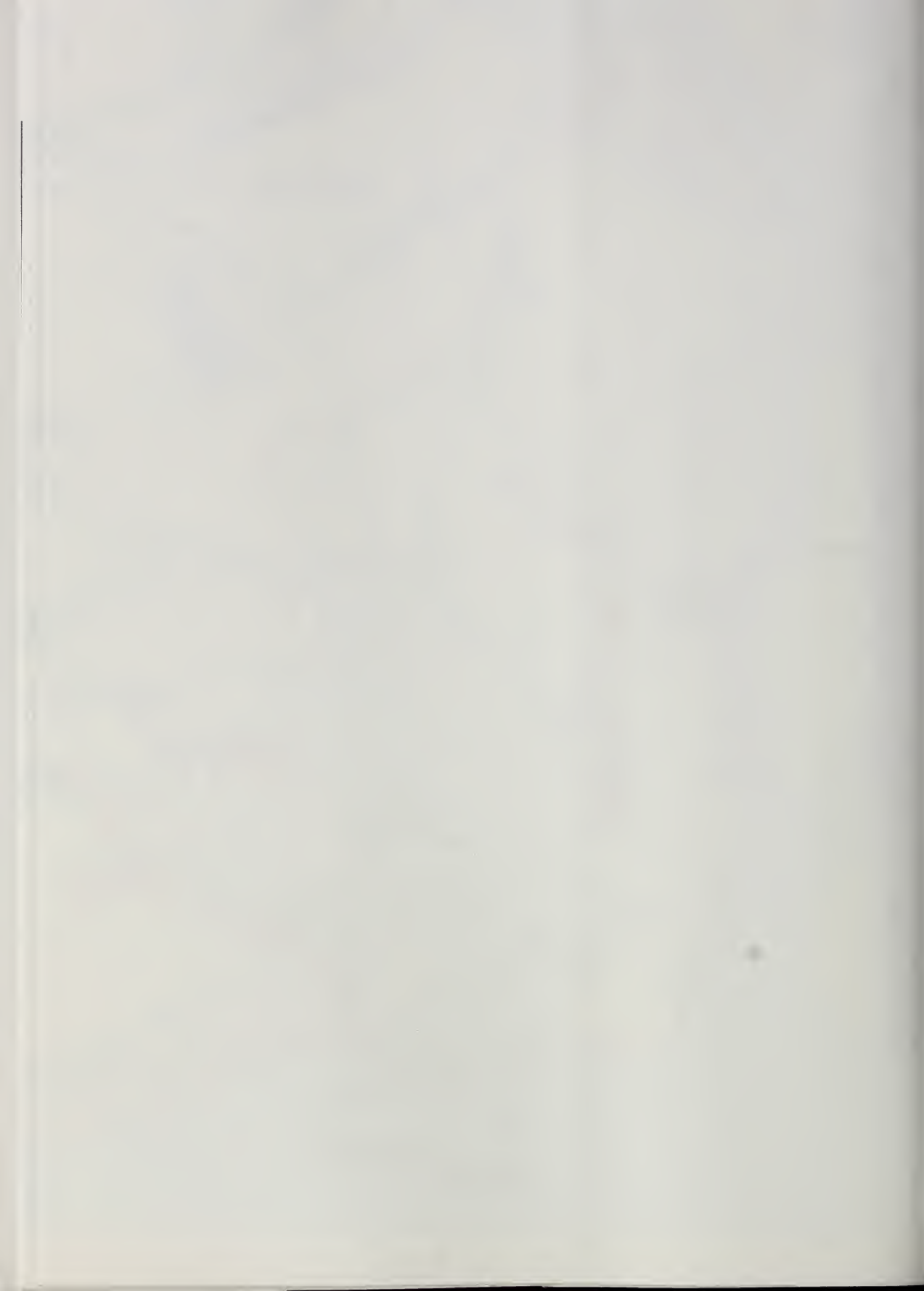
- Proposed Partial Harvest Units
75 percent retention
- Proposed Partial Harvest Units
50-66 percent retention
- Proposed Partial Harvest Units
20-30 percent retention
- Proposed Clearcut Units
- Existing Managed Stands
- Non-National Forest System Lands
- Lakes
- Saltwater
- Crystal Inventoried Roadless Area
- Streams
- Project Area Boundary
- Existing Road
- Proposed Road
- Proposed Temporary Road
- 500ft Contours
- Proposed Recreation Site
- Watershed Improvement Project *
- Reconstruction of Stream Crossing Structures *

* Covered by separate project decision

Chapter 2-31



Scale is 1 inch = 5280 feet



Mitigation

The analysis documented in this environmental impact statement discloses the possible adverse impacts that may occur from implementing the actions proposed under each alternative. Measures have been formulated to mitigate or reduce these impacts. These measures were guided by the direction from the Forest Plan.

Forest Plan standards and guidelines applicable to the proposed activities, the Best Management Practices (BMPs) used to meet the requirements of the Clean Water Act, and project-specific mitigation measures are identified for all proposed activities.

Resource specialists use field inventories, computer (GIS) data, and aerial photographs to prepare the Activity Cards (Appendix B) for all proposed activities, such as harvest units, road construction, recreation projects, and watershed projects. Specific resource concerns are listed on the activity card narratives and have site-specific mitigation measures. Resource concerns and mitigation measures may be refined further during final layout or implementation if additional information becomes available.

The following mitigation measures will be incorporated at the implementation stages:

Great Blue Heron Rookeries and Raptor Nests

One great blue heron rookery has been found within the project area. This rookery has been protected by a 600-foot no-harvest buffer, which will remain until the rookery is determined to be no longer active. One raptor nest has been found. A red-tailed hawk nest will be protected by a 600-foot no-harvest buffer.

High Value Marten Habitat

High value marten habitat has been identified in the project area. Where present, residual trees will be left as described in the Forest Plan standards and guidelines and in Appendix B.

Fish Habitat

Timing windows for in-stream work (listed on the Road Cards in Appendix B) have been determined through coordination with the Alaska Department of Fish and Game.

Heritage Resource Sites

If previously undiscovered archaeological sites are found during implementation, activities will cease until a qualified archaeologist can evaluate the site and, if necessary, develop mitigation measures in consultation with the Alaska State Historic Preservation Officer.

2 Alternatives

Wetlands

To the extent practicable, wetlands will be avoided during timber harvest layout and road design.

On roads that cross wetlands, shot rock will be used, and drainage structures will be designed to ensure that subsurface flow is not restricted.

Soil Disturbance Harvest settings will be designed to achieve partial or full suspension where needed to minimize soil disturbance, especially on wetland soils. If cable logging cannot achieve objectives, helicopter logging will be considered. On slopes greater than 72 percent, unstable slopes will be avoided.

Soil exposed after road construction will be seeded in a timely manner.

Water Quality

All Best Management Practices will be incorporated during sale design and harvest administration. A National Pollutant Discharge Elimination System permit has been obtained for the Woodpecker Cove LTF. This permit provides for protection of water quality by eliminating discharge of surface water directly from the working area to the environment through the use of settling ponds and a drainage system.

Operators who maintain storage facilities for oil or oil products on the sale area will take appropriate preventive measures to ensure that spills do not occur. If a spill does occur, action will be taken using emergency response materials to prevent petroleum products from entering any stream or other waters. A Spill Prevention Control and Countermeasures (SPCC) Plan that meets applicable EPA requirements will be prepared and maintained. Timber sale administrators will inspect petroleum storage facilities and the Purchaser's SPCC for prevention of spills and to ensure prepared emergency response plans are in place.

Monitoring

Monitoring is gathering data and information and observing the results of management activities to provide a basis for evaluation. Monitoring activities can be divided into project-specific monitoring and Forest plan monitoring. The National Forest Management Act requires that National Forests monitor and evaluate their Forest plans (36 CFR 219.110). Chapter 6 of the Forest Plan includes the activities to be conducted as part of the Forest Plan implementation. The three types of monitoring are implementation monitoring, effectiveness monitoring, and validation monitoring.

Implementation monitoring and evaluation guarantee that standards and guidelines are being incorporated during on-the-ground operations. Effectiveness monitoring and evaluation is used to determine whether standards and guidelines are achieving objectives, and whether objectives are achieving goals. Validation monitoring and evaluation is used to examine whether the assumptions and predicted effects are accurate. Validation monitoring is usually not done at the project level. Figure 2-7 displays the flow of information between implementation, effectiveness, and validation monitoring and evaluation.

Implementation Monitoring

Timber Sale Contract Preparation

The Interdisciplinary Team prepared Activity cards to provide site-specific analysis and guidance for unit layout and road location and during timber harvest and road construction. Unit cards include a unit map and a narrative explaining resource concerns and how the concerns could be addressed in the design of each unit. Road Management Objectives were developed for each road (Road Cards, Appendix B). These cards guide the implementation of those activities.

Staff who prepare timber sale contracts are required by Forest Service Washington Office direction (March, 2000) to confirm and certify that the timber sale contract is in agreement with the decision document. This certification verifies that items such as maps, number of acres, location of units, harvest methods, and stand numbers agree. The certification also ensures that all mitigation measures identified in the EIS relating to timber sale contract requirements are included in the timber sale contract.

Timber Sale Contract Administration

Implementation monitoring continues through harvest and contract inspections. As a routine part of project implementation, sale administrators and road inspectors monitor harvest and construction activities. Through provisions contained in the timber sale contract, sale administrators and inspectors ensure that the prescriptions contained on the unit and road cards are implemented. Sale administrators and road contract inspectors have the authority to initiate action to repair resource damage and suspend operations until problems have been corrected. This process ensures that project elements and Forest Plan standards and guidelines are implemented as designed. The Contract Administrators will monitor all units and roads for implementation of the appropriate Best Management Practices.

2 Alternatives

Effectiveness Monitoring – Project Level

Meet Visual Quality Objectives for Scenery

Objective: Document effects on scenery after harvest for viewsheds from Visual Priority Travel Routes and Use Areas.

Method: Visually estimate impacts to scenery.

Action: Take photos from points on Wrangell Narrows, Sumner Strait, South Blind Slough, and Crystal Mountain prior to harvest and after harvest.

Road Condition Surveys (Fish Passage)

Objective: To ensure that all road crossings over fish streams maintain fish passage to Forest Plan standards.

Method: Fish passage will be monitored using developed criteria.

Action: If fish passage is impaired, corrective actions will be taken.

Road Use

Objective: Determine if road use changes within the Woodpecker Project Area after project implementation, and after ferry terminal development, if it occurs.

Method: Install traffic counters at the beginning of Road 6245 after harvest, compare use before and after South Mitkof ferry terminal is complete.

Action: If road use changes, reevaluate Road Management Objectives.

Monitoring of Slide Along Road 6284

Objective: To ensure that a landslide along Road 6284 remains covered with vegetation.

Method: Visually observe any erosion that may occur.

Action: Plant or seed if necessary.

Woodpecker Cove Demonstration Area - understory

Objective: Determine which thinning regime produces the best understory for deer winter forage.

Method: Continue to monitor growth and species using transects.

Action: Prescribe the most productive spacing for future thinnings for comparable stands.

Dispersed Recreation Sites

Objective: Determine if use increases after recreation sites are improved.

Method: Check site conditions and document use at various times of the year.

Action: If use increases, reevaluate maintenance needs and possible need for sanitation facilities.

Grayling Stocking

Objective: Determine the stocking levels of the grayling transplanted into Wolf Track Lake.

Method: Conduct visual observations in conjunction with Alaska Department of Fish and Game surveys.

Action: If the Alaska Department of Fish and Game find grayling populations are sufficient to open the lake to sport fishing, monitor the site for recreation use.

Most validation monitoring is conducted in partnership with the forest research scientists on a forest-wide basis and is beyond the scope of this project. One validation-monitoring project, the Heritage Resources Predictive Model, is included in the Woodpecker Project Area.

Heritage Resources Predictive Model

Objective: Validate assumptions of heritage resources predictive model.

Method: Conduct field observations along reconstructed and newly reconstructed roads.

Action: Determine if assumptions of the heritage resources predictive model require adjustment. Document results in an Annual Report submitted to the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) as per a Programmatic Agreement between the Alaska Region, the SHPO and the ACHP.

Validation Monitoring

Forest Plan Monitoring

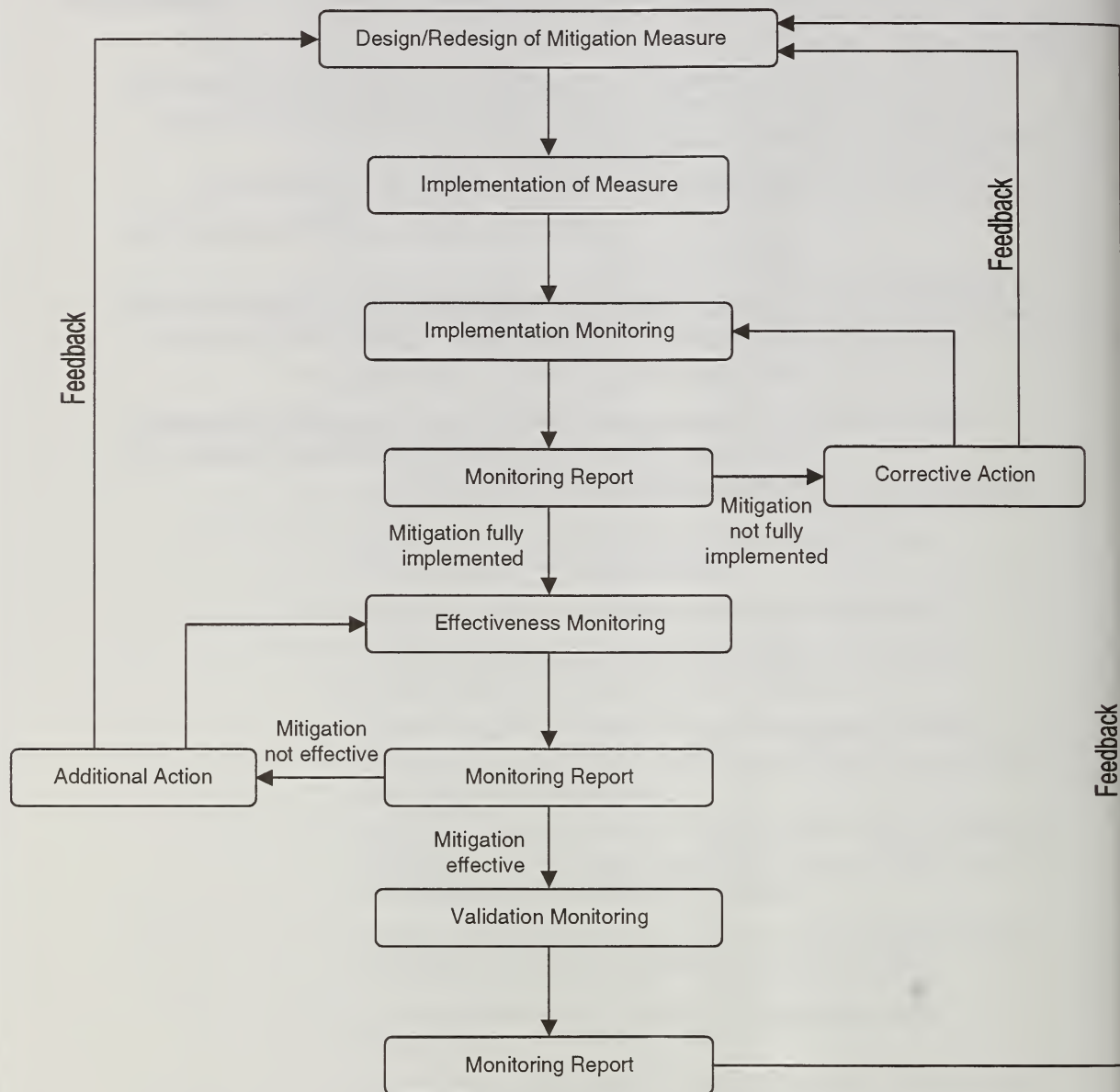
Much of the monitoring at the Forest Plan level consists of annually surveying a representative sample of harvest units. Some monitoring items are contingent on management activities while others are based on the condition of the Tongass National Forest as a whole. The activities in the Woodpecker Project Area will be incorporated into the Forest-wide monitoring and evaluation plan as described in the Monitoring and Evaluation Guidebook for the Tongass Land and Resource Management Plan (June 2000). The following list portrays some of the monitoring items from the Forest Plan that are most pertinent to the Woodpecker Project Area:

- Are contiguous blocks of old-growth habitat being maintained in a forest-wide system of old-growth reserves to support viable and well-distributed populations of old-growth associated species and subspecies?
- Are management practices consistent with current knowledge regarding sensitive species?
- Are Fish & Riparian Standards and Guidelines being implemented?
- Are Fish & Riparian Standards and Guidelines effective in maintaining or improving fish habitat?
- Are Heritage Standards and Guidelines being implemented?
- Are Heritage Standards and Guidelines effective in protecting heritage resources as expected in the Forest Plan?
- Are areas of the Forest being managed in accordance with the prescribed Recreation Opportunity Spectrum (ROS) class in Forest-wide standards and guidelines?
- Is all-terrain vehicle (ATV) use causing, or will it cause, considerable adverse effects on soil, water, vegetation, fish and wildlife, visitors or cultural and historic resources of the Forest?
- Are the standards and guidelines effective in attaining the adopted Visual Quality Objectives established in the Forest Plan?
- Are the standards and guidelines for soil disturbance being implemented?
- Are the standards and guidelines effective in meeting Alaska Region Soil Quality Standards?
- Are Best Management Practices being implemented?
- Are timber harvest activities adhering to applicable Timber Management Standards and Guidelines?

- Are harvested forest lands restocked within five years following harvest?
- Are the Non-Interchangeable Components (NICs) of the allowable sale quantity consistent with actual harvest?
- Should maximum size limits for harvested areas be continued?
- Are the standards and guidelines used for forest development roads and log transfer facilities effective in limiting the environmental effects to anticipated levels?
- Are Wetland Standards and Guidelines being implemented?
- Are Wild, Scenic, and Recreational River Standards and Guidelines being implemented?
- Are population trends for Management Indicator Species (MIS) and their relationship to habitat changes consistent with expectations?
- What outputs were produced in the previous year?
- Are the costs associated with carrying out the planned management prescriptions (including those of producing outputs) consistent with the costs estimated in the Forest Plan?

2 Alternatives

Figure 2-7. Mitigation/Monitoring Feedback Loop



Alternatives Considered but Eliminated from Detailed Study

The following alternatives were considered during the analysis for the Woodpecker Project Area but were eliminated from detailed study for this analysis. This does not eliminate the alternatives from future analyses nor does it prevent them from being reconsidered following the review of comments to the Draft Environmental Impact Statement.

Timber Harvest and Road Construction

No New Roads

A "no new roads" alternative would restrict timber harvest to helicopter logging only or to harvest of stands along existing roads. It would be economically inefficient if timber stands that could be easily roaded with a short temporary road were helicopter logged. By including these short temporary roads, there were more opportunities for small operators.

Alternatives 3 and 4 do not build any classified road, only segments of temporary roads. These temporary roads would be closed after timber harvest and allowed to revegetate. Alternative 1, the No-Action Alternative, does respond to this comment.

No Harvest in Watersheds Adjacent to Road 6284

This alternative would respond to a public comment about fisheries concerns in these two watersheds, which are designated as Watersheds 1 and 2 on Figure 3-18. This alternative was not considered in detail since the Forest Plan standards and guidelines adequately protect these fisheries. These standards and guidelines were applied to all proposed activities within all alternatives.

The No-Action Alternative does respond to this comment. Additionally, the selected alternative could avoid all units within these watersheds.

Use Helicopter Logging Only

An alternative that would use only helicopter logging was not analyzed. This alternative would not provide any small sale opportunities. The exclusive use of helicopter logging would be inefficient and uneconomical. It would also limit the opportunity to purchase timber sales to those purchasers that could afford the initial outlay of finances to obtain the use of a helicopter, either through purchase or sub-contracting. Alternative 4 does use helicopter logging for the majority of the volume.

2 Alternatives

Use of Clearcutting as Primary Harvest Method

This alternative was not developed because clearcutting would not meet the Forest Plan standards and guidelines for high value marten habitat or scenery. Many of the proposed harvest units contain high value marten habitat and/or can be seen from a Visual Priority Travel Route and Use Area. Clearcutting is included in Alternative 5 where all Forest Plan standards and guidelines can be met.

Extending Road 6245

Additional harvest units could be accessed by extending the Woodpecker Road (Road 6245). This alternative was not developed primarily since timber harvest opportunities were present along the existing road system. Road 6245 was extended in the late 1980s but little timber harvest occurred along the new portion of the road. This project focuses on harvesting timber along this part of the road. Future timber harvest entries may extend the road.

Helicopter Logging to a Barge

The use of helicopter yarding to a barge to avoid the effects on marine life at the log transfer facility was discussed. The road system and the log transfer facility are already in place. The log transfer facility has been permitted through all appropriate regulatory agencies. The use of a helicopter to transport the logs from the sort yard to the barge would be economically unrealistic. In order to use helicopter logging directly from the harvest unit to the barge, the units should be less than $\frac{3}{4}$ mile away. Many of the units are farther away than this, which would make the sales economically unfeasible.

Maximum Timber Harvest

Although more timber harvest and road construction could be proposed within the Woodpecker Project Area, this alternative would have more direct effects on the wildlife and recreation uses of the project area. Although sustainability of the timber harvest is calculated on a Forest-wide scale, Alternative 5 was chosen to represent a higher level of harvest. Future timber harvest may be proposed in this area providing the land use designations continue to allow timber harvest.

Recreation Projects

Improvement of the Crystal Mountain Trail

Most of the Crystal Mountain Trail would be outside the Woodpecker Project Area. A separate analysis would need to be completed for this project.

Construction of a Trail to a Waterfall near the Woodpecker Road at Milepost 16

This was considered but dropped at this time due to the predicted low level of use and the costs of mitigating the environmental impacts. This project may be analyzed in the future.

Improvement of the Current Recreation Site Near Woodpecker Cove

An environmental analysis for improvement of this site was done in 1993. The No-Action Alternative was selected at that time due to the environmental impacts that would result from the increased use that improvements would bring.

Construction of a Campground in the Southeast Corner of the Project Area

A small campground was considered in the southeast corner of the Woodpecker Project Area, near South Blind Slough. Currently, there is not enough demand for a new campground on Mitkof Island. The existing Ohmer Creek campground does not receive capacity use during much of the camping season.

A new campground on Mitkof Island or elsewhere on the Petersburg Ranger District may be considered by either the Forest Service or the State of Alaska in the future. This may be necessary if a proposed new ferry terminal is built at the south end of Mitkof Island, and demand for camping and recreation facilities increases. The analysis would be based on the expected increase in use and would likely include a larger analysis area.

Create a loop with Road 6245 and Mitkof Highway

This was a public comment during the scoping for the 1991-1995 Recreation Plan and the Mitkof Landscape Analysis. This connection would require building a road through a medium Old-growth Habitat Reserve. Only roads that have no other alternative route should be built through an Old-growth Habitat Reserve, according to the Forest Plan standards and guidelines.

Create a loop with Road 6245 and Road 6284

This option was examined as an alternative loop road connection to the one proposed in Alternative 2. To complete this alternative loop, the road through the proposed timber harvest units 123 and 125 would be extended to the temporary road off Road 6284. This road would cross more streams than the proposed loop connection. The stream crossing on Road 6284 would require the installation of a permanent bridge.

Design Options for Small Old-growth Habitat Reserves within the Woodpecker Project Area

Forest Plan Old-growth Habitat Reserve Strategy

A system of large, medium, and small old-growth habitat reserves has been identified and mapped in the Forest Plan as part of a forest-wide old-growth habitat reserve strategy.

The Forest Plan Record of Decision recognized that small old-growth habitat reserves identified in the Forest Plan received differing amounts of field verification and integration of site-specific information during the Forest Plan analysis. The Forest Plan provides for further evaluation by VCU and possible adjustment of the size, spacing, and habitat composition of the small old-growth habitat reserves during project implementation.

All acres in non-development land use designations are also considered as part of the old-growth reserve strategy and are incorporated into this analysis. This includes acres within the medium old-growth habitat reserves (#67 and #71) and the Blind Slough Special Interest Area. The total non-development land use designation acres were compared to the total acres needed for small old-growth habitat reserves to see if any acreage adjustments were needed.

This section briefly discusses the design options for the small old-growth habitat reserves. For a more complete discussion of the modifications for the design options and old-growth habitat, see the Biodiversity section in Chapter 3.

Forest Plan Direction for Small Old-growth Habitat Reserves

The guidelines for small old-growth habitat reserves are found in Appendix K of the Forest Plan. Small old-growth habitat reserves should be at least 16 percent of the National Forest System acres within a VCU. Of this 16 percent, at least 50 percent of the acres should be productive old-growth forest. Productive old-growth forest is defined as a stand of trees with old-growth characteristics and with a volume of more than 8,000 board feet per acre.

Productive old-growth forest is not necessarily suitable for timber production. It often occurs on steep slopes, or within riparian, estuary, and beach buffers.

Design Options for Small Old-growth Habitat Reserves in the Woodpecker Project Area

The location, size and habitat composition of the three small old-growth habitat reserves within the Woodpecker Project Area were evaluated as part of project analysis. Two alternatives to the Forest Plan design were developed.

Tables 2-3 through 2-5 summarize the existing Forest Plan design and the two options developed for adjustment of the small old-growth habitat reserves. Option 1 represents the interagency collaborative biological design of small old-growth habitat reserves. Option 2 was developed in response to a public comment to meet but not exceed minimum Forest Plan requirements for small old-growth habitat reserve design. None of these options affect any of the proposed activities in any alternative. More information about the design options is included in Chapter 3.

Forest Plan Design The small old-growth habitat reserves were designed in 1995 as part of the Mitkof Landscape Design and later incorporated into the Forest Plan. Since they were designed, several standards and guidelines were incorporated into the Forest Plan. These include the 1,000-foot beach and estuary buffers and the designation of islands less than 1,000 acres as non-development land use designations.

(Figure 2-8)

The Forest Plan design is the No-Action Alternative even though the Wrangell Narrows Small Old-growth Habitat Reserve does not meet the criterion for total size. This design is displayed on Figure 2-8. It is also displayed in Chapter 1 on the Land Use Designation map (Figure 1-3).

The Forest Plan allocated three small old-growth habitat reserves within the Woodpecker Project Area. The Wrangell Narrows Small Old-growth Habitat Reserve in VCU 448 as mapped in the Forest Plan lacks sufficient total acreage to meet the Appendix K criteria, although the location and habitat composition are adequate. The South Blind Slough Small Old-growth Habitat Reserve in VCU 452 was designed as part of the Mitkof Landscape Design, which was done prior to the completion of the Forest Plan, and contains design elements that differ from the Forest Plan. Also, a GIS mapping error was found in relation to the non-National Forest boundary within VCU 452, which affects the Woodpecker Cove Small Old-growth Habitat Reserve.

2 Alternatives

Option 1 - Interagency Biological Collaborative Old- growth Habitat Reserve Design

The Forest Service works with other federal and state agencies on interagency reviews of small reserves where new projects are planned. Biologists from the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service, and the Forest Service developed a collaborative biological recommendation for the placement of small old-growth habitat reserves within the Woodpecker Project Area. This design is displayed on Figure 2-9.

(Figure 2-9)

Option 1 added additional acres to the Wrangell Narrows Small Old-growth Habitat Reserve in VCU 448 to meet the Appendix K criteria. Acres were added to the Woodpecker Cove Small Old-growth Reserve in VCU 452, and its boundary was modified due to a State land selection. The size of the South Blind Slough Small Old-growth Habitat Reserve in VCU 452 was decreased to avoid Road 6245, which would be managed as a road open to the public. The Forest Plan criteria are met in VCU 448 and exceeded in VCU 452.

Option 2 – Small Old-growth Habitat Reserves Designed to Meet Minimum Requirements

This design was based on a public comment to meet but not exceed the Forest Plan criteria for total size of small old-growth habitat reserves. This option focuses on the need to meet the Forest Plan criteria for small old-growth habitat reserve design without affecting other aspects of the Forest Plan. Where additional acres were needed, productive old-growth that was not tentatively suitable for timber harvest was considered first. This design is displayed on Figure 2-10.

(Figure 2-10)

Option 2 added additional acres to the Wrangell Narrows Small Old-growth Habitat Reserve in VCU 448 to meet the Forest Plan Appendix K criteria. This is the same design as Option 1. Acres were added to the Woodpecker Cove small Old-growth Reserve in VCU 452 and its boundary was modified due to a State land selection, using the same design as Option 1. The South Blind Slough Small Old-growth Habitat Reserve in VCU 452 was deleted since those acres were not needed to meet the Forest Plan criteria. The Forest Plan criteria are met in both VCU 448 and VCU 452.

Non-significant Amendment to the Forest Plan

Direction in the Forest Plan for the Old-growth Habitat Management Prescription states that adjustments to individual small old-growth habitat reserves would require a non-significant plan amendment.

The Forest Plan defines a non-significant plan amendment in part as: “minor adjustments to land use designation boundaries, management prescriptions, or Forest-wide standards and guidelines resulting from improved understanding of resource conditions, further inventory, or site-specific analysis.” The design changes for the proposed options would meet these criteria. Therefore, a non-significant Forest Plan amendment would be needed if the small old-growth habitat reserves were modified by adjusting their size, location, and habitat composition, to better meet the Forest Plan guidelines.

Table 2-3. Options for the Small Old-growth Habitat Reserve Design in VCU 448

Forest Plan Appendix K Criteria VCU 448	Wrangell Narrows Small Old-growth Habitat Reserve		
	Forest Plan Design	Option 1	Option 2
Meets total size needed (2,300 acres)	No	Yes	Yes
Total size	1,840 acres	2,300 acres	2,300 acres
Meets productive old-growth acres needed (1,080 acres)	Yes	Yes	Yes
Productive old-growth acres	1,600 acres	1,840 acres	1,840 acres

Table 2-4. Options for Small Old-growth Habitat Reserve Designs in VCU 452

Forest Plan Appendix K Criteria VCU 452	Woodpecker Cove Small Old-growth Habitat Reserve			South Blind Slough Small Old-growth Habitat Reserve		
	Forest Plan Design	Option 1	Option 2	Forest Plan Design	Option 1	Option 2
Meets total size needed (1,590 acres)	Yes, when combined with South Blind Slough OGR	Yes	Yes	Yes	No	This option deletes the South Blind Slough Old-growth Habitat Reserve
Total Size	1,280 acres ¹	1,610 acres	1,610 acres	1,800 acres	620 acres	
Meets productive old-growth acres needed (1,000 acres)	Yes	Yes	Yes	Yes	No	
Productive old-growth acres	1,130 acres	1,420 acres	1,420 acres	1,150 acres	590 acres	

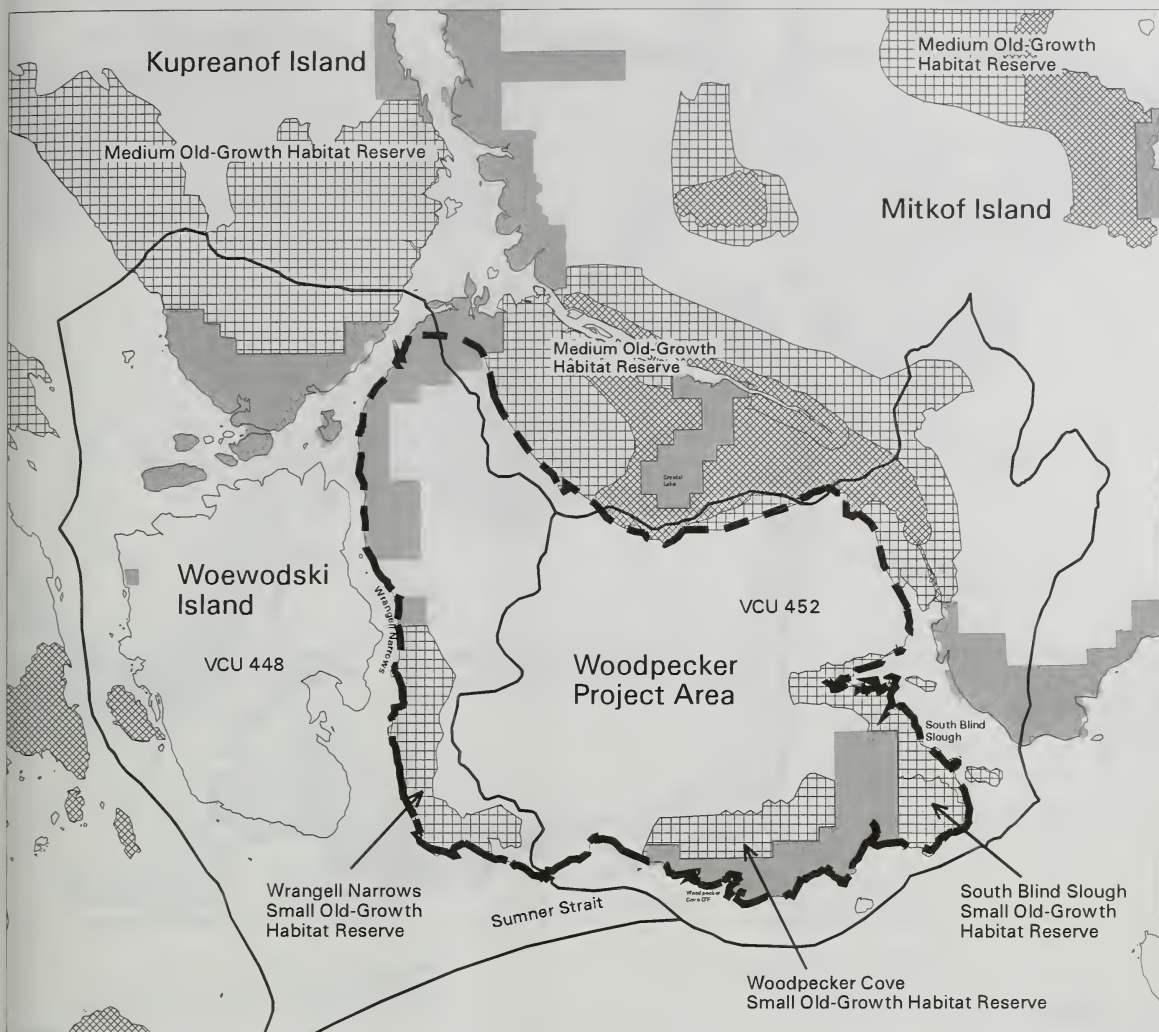
¹ Does not include about 80 acres of state-selected land that was included in the Forest Plan Design.






2 Alternatives

Table 2-5. Design Options for the Small Old-growth Habitat Reserves within the Woodpecker Project Area

Comparison of VCUs	Forest Plan Design		Option 1		Option 2	
	VCU 448	VCU 452	VCU 448	VCU 452	VCU 448	VCU 452
Meets total size criteria	No	Yes	Yes	Yes	Yes	Yes
Total Size of Reserves in Acres	1,840 acres	3,160 acres	2,300 acres	2,230 acres	2,300 acres	1,610 acres
Meets productive old-growth acres criteria	Yes	Yes	Yes	Yes	Yes	Yes
Productive old-growth acres	1,600 acres	2,280 acres	1,840 acres	2,010 acres	1,840 acres	1,420 acres
Tentatively suitable forest acres ¹	1,050 acres	740 acres	1,180 acres	560 acres	1,180 acres	310 acres

¹ Tentatively suitable forest acres are not part of the Forest Plan OGR criteria and are displayed here for purposes of comparison only.



-  NON-NATIONAL FOREST
-  NON DEVELOPMENT LUDS
-  OLD-GROWTH HABITAT RESERVES
-  PROJECT AREA BOUNDARY
-  VCU BOUNDARY

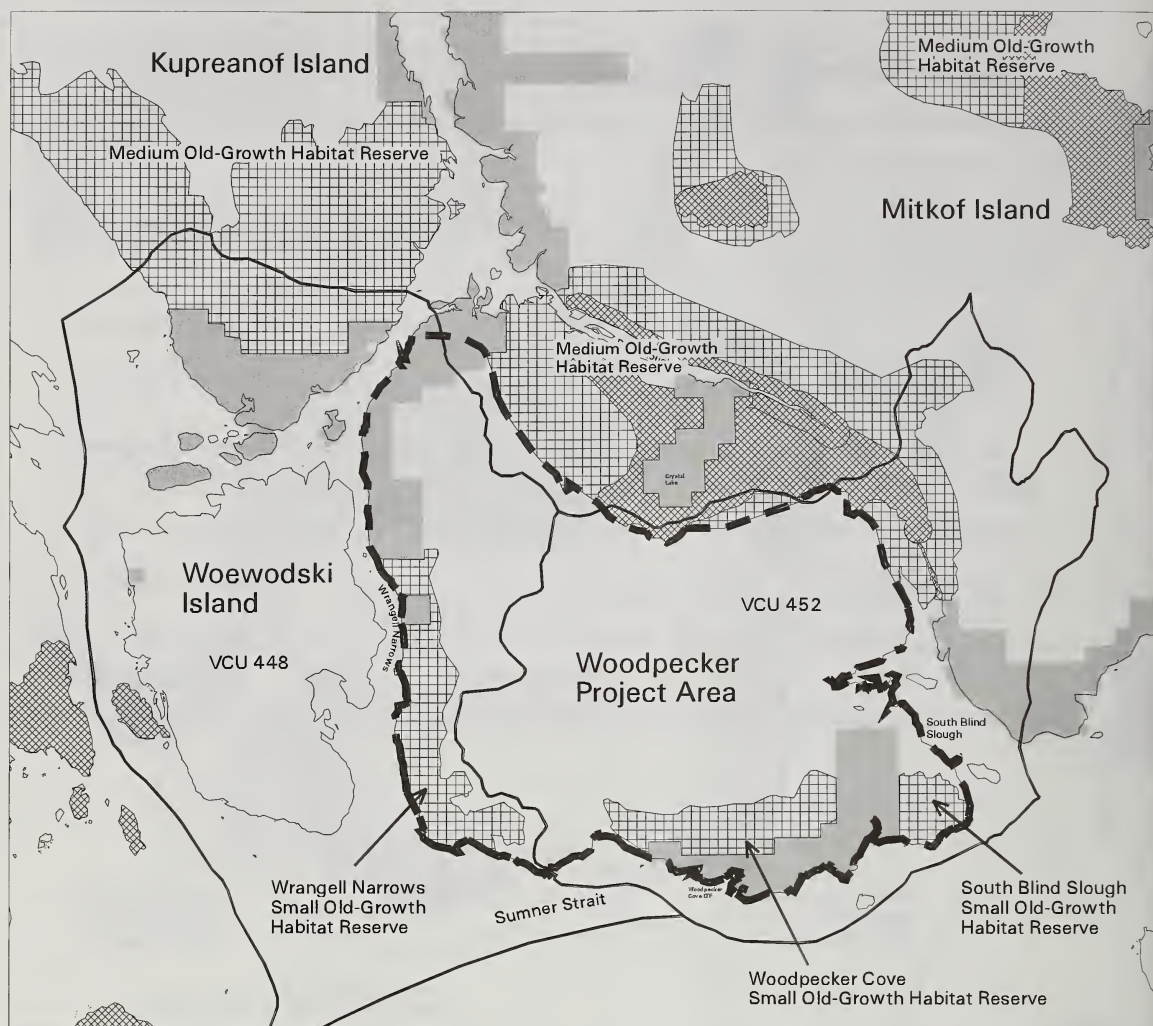
Existing Forest Plan Design Woodpecker Project Area Small Old-Growth Habitat Reserves








Figure 2-8

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Scale is 1 inch = 13763 feet

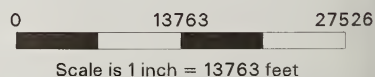


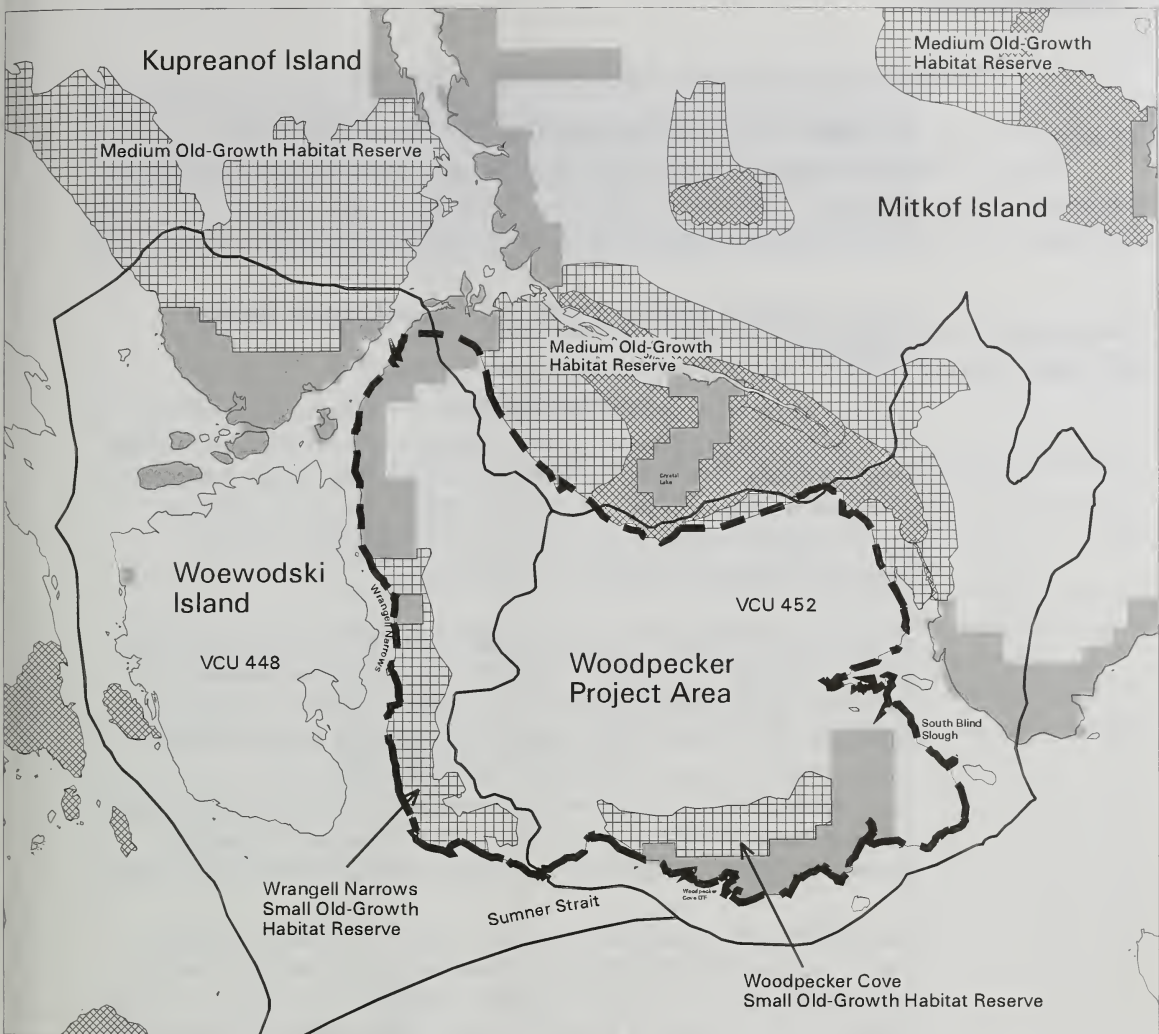
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-  OLD-GROWTH HABITAT RESERVES
-  PROJECT AREA BOUNDARY
-  VCU BOUNDARY






Interagency Collaborative Design Woodpecker Project Area Small Old-Growth Habitat Reserves Option 1



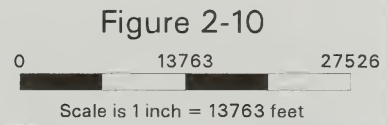
Figure 2-9





-  NON-NATIONAL FOREST
-  NON DEVELOPMENT LUDS
-  OLD-GROWTH HABITAT RESERVES
-  PROJECT AREA BOUNDARY
-  VCU BOUNDARY

Forest Plan Criteria Design
Woodpecker Project Area
Small Old-Growth Habitat Reserves
Option 2



Design Options for Small Old-growth Habitat Reserves Considered But Eliminated From Detailed Study

Avoid Suitable Timber within Small Old-Growth Habitat Reserves

It was possible to design the small old-growth habitat reserves within VCU 452 to avoid all timber that is tentatively suitable for harvest. This would put about 740 acres back into the timber base. Of the 740 acres, 230 acres have already been harvested. The design of the small old-growth habitat reserves would become more fragmented and less compact in shape with less interior old-growth.

Relocating the Wrangell Narrows Small Old-growth Habitat Reserve to avoid the inclusion of tentatively suitable timber was not pursued for VCU 448. VCU 448 includes portions of Mitkof Island and Kupreanof Island and all of Woewodski Island. The Kupreanof Island portion is already within a medium old-growth habitat reserve. The recommendation for the current design included some of the highest deer winter habitat and contiguous old-growth forest and avoided second-growth stands and existing roads, consistent with the Forest Plan criteria.

Much of the timber suitable for harvest within the Wrangell Narrows Small Old-growth Habitat Reserve would be uneconomical to harvest. Wrangell Narrows is a visually sensitive area and only small amounts of timber could be harvested at any given time. The suitable timber would have to be moved by helicopter to a barge in the Wrangell Narrows, an Alaska Marine Highway route and navigational waterway, or a new road would have to be built to connect to Road 6245. This road would also have to meet the standards and guidelines for scenery.

VCU 448 – Small Old-Growth Habitat Reserve on Woewodski Island

This was discussed during the Mitkof Landscape Design. The idea was revisited during this analysis. The Wrangell Narrows Small Old-growth Habitat Reserve was maintained in this VCU due to its quality. Further analysis of this option may occur during the project analysis for Woewodski Island.

VCU 452 – Inland Small Old-growth Habitat Reserve

The hillside area where the proposed timber harvest units 78 through 90f are located was considered for a small old-growth habitat reserve. Although this area would meet the criteria, the existing small old-growth habitat reserves had higher values for deer winter habitat and old-growth associated species.

VCU 452 – Eliminate the Woodpecker Cove Small Old-growth Habitat Reserve and Retain the South Blind Slough Small Old-growth Habitat Reserve.

The Forest Plan South Blind Slough Small Old-growth Habitat Reserve was large enough and contained enough productive old-growth acres to meet the criteria for VCU 452. An option to retain this reserve and delete the Woodpecker Cove Small Old-growth Habitat Reserve was considered. However, the South Blind Slough Small Old-growth Habitat Reserve had more habitat fragmented by muskeg and existing second-growth timber harvest units. The reserve also contained a section of Road 6245. The Woodpecker Cove Small Old-growth Habitat Reserve contained more acres of high-value deer winter habitat and had evidence of marbled murrelet nesting.

Chapter 3

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Chapter 3

Algebraic Geometry

Algebraic Geometry



Chapter 3

Affected Environment and Environmental Consequences

Introduction

This chapter provides information concerning the existing environment of the Woodpecker Project Area, and potential consequences to that environment as a result of this project. It also presents the scientific and analytical basis for the comparison of alternatives presented in Chapter 2. Each resource potentially affected by the Proposed Action or other alternatives is described by its current condition and uses. Some other findings required by policy and law are included at the end of the chapter.

The chapter begins with a description of the environmental effects on resources associated with four significant issues in the Woodpecker Project Area. Other concerns raised during scoping that are not significant issues are discussed in the Other Environmental Considerations section. These include potential effects (environmental consequences) that are mitigated in the same way in all alternatives or resources that are not significantly affected by any alternative. All effects, including direct, indirect and cumulative effects, are disclosed. Effects are quantified where possible, and qualitative discussions are also included. The means by which potential adverse effects will be reduced or mitigated are described (see also Chapter 2, and Appendices B and D).

The discussions of resources and potential effects use existing information included in the Forest Plan, other project environmental analyses, project-specific resource reports, agency and scientific studies,

3 Introduction

and related information. Where applicable, such information is briefly summarized and referenced to minimize duplication. The planning record for the Woodpecker Project Area includes all project-specific information, including resource reports, documentation of field investigations, and information resulting from public involvement efforts. The planning record is located at the Petersburg Ranger District Office in Petersburg, Alaska, and is available for review during regular business hours. Information from the record is available upon request.

Administrative Land Divisions

The land area of the Tongass National Forest has been divided in several different ways to describe the different resources and facilitate systematic and consistent analysis. These divisions vary by resource as the relationship of each resource to geographic conditions and zones varies.

Land Use Designations (LUDs)

The allocation of land use designations (LUDs), as discussed in Chapter 1, was accomplished with the Forest Plan. Each LUD provides for a combination of activities, goals and objectives, and uses. There are four LUDs within the Woodpecker Project Area. These are Scenic Viewshed, Modified Landscape, Timber Production, and Old-growth Habitat. The standards and guidelines for these LUDs were used for unit design and to analyze effects on scenery. The LUDs within the Woodpecker Project Area are discussed and displayed in Chapter 1.

Value Comparison Units (VCUs)

These are distinct geographic areas, each encompassing a drainage basin containing one or more large stream systems. The boundaries usually follow major watersheds; however in the Woodpecker Project Area, there are exceptions. The Woodpecker Project Area includes parts of VCUs 447, 448, 451, and 452. VCU 447 includes small drainages on both sides of the northern part of the Wrangell Narrows, including islands. VCU 448 includes small drainages on both sides of the southern part of the Wrangell Narrows, including Woewodski Island and other smaller islands. VCU 451 includes the main part of Blind Slough and the Blind River. VCU 452 includes South Blind Slough and Ohmer Creek. VCUs 447 and 452 are on the Alaska Department of Fish and Game's list of VCUs with the highest Community Use Values (Flanders, et.al, 1998). Figure 1-3 in Chapter 1 shows the location of these VCUs. VCUs are used to analyze the size of small old-growth habitat reserves.

Wildlife Analysis Areas (WAAs)

These are land divisions used by the Alaska Department of Fish and Game to report community harvests of selected wildlife species. WAA

2007 includes all of Mitkof Island. Some of the wildlife and subsistence analyses for the Woodpecker Project Area are compiled by WAA.

Analyzing Effects

Environmental consequences are the effects of implementing an alternative on the physical, biological, social and economic environment. The Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) include a number of specific categories to use for the analysis of environmental consequences. Several are applicable to the analysis of the proposed project and alternatives, and form the basis of much of the analysis, which follows. They are explained briefly here.

Direct, Indirect and Cumulative Effects

Direct environmental effects are those occurring at the same time and place as the initial cause or action. Indirect effects are those that occur later in time or are spatially removed from the activity, but would be significant in the foreseeable future. Cumulative effects result from incremental effects of actions, when added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Unavoidable Adverse Effects

Implementation of any action alternative may cause some adverse environmental effects that cannot be effectively mitigated or avoided. Unavoidable adverse effects often result from managing the land for one resource at the expense of the use or condition of other resources. Many adverse effects can be reduced, mitigated or avoided by limiting their extent or duration. The interdisciplinary procedure used to identify specific harvest units and roads was designed to eliminate or lessen the significant adverse consequences. The application of Forest Plan standards and guidelines, Best Management Practices, project-specific mitigation measures, and monitoring are all intended to further limit the extent, severity, and duration of potential effects. Such measures are discussed throughout this chapter. Regardless of the use of these measures, some adverse effects may occur. The purpose of this chapter is to fully disclose those effects.

Short-term Use and Long-term Productivity

Short-term uses and their effects are those that occur annually or within the first few years of project implementation. Long-term productivity refers to the capability of the land and resources to continue producing

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goods and services long after the project has been implemented. Under the Multiple-Use Sustained Yield Act, and the National Forest Management Act, all renewable resources are to be managed in such a way that they are available for future generations. Timber harvest can be considered a short-term use of a renewable resource. As a renewable resource, trees can be reestablished and grown again if the long-term productivity of the land is maintained. This long-term productivity is maintained through the application of the resource protection measures described in Chapter 2, in particular those applying to the soil and water resources. These protection measures are also discussed throughout this chapter, in particular for soils, water quality, biodiversity, and economics.

Irreversible and Irretrievable Commitments

Irreversible commitments are decisions affecting non-renewable resources such as soils, wetlands, unroaded areas, and heritage resources. Such commitments are considered irreversible because the resource has deteriorated to the point that renewal can occur only over a geological period of time or at a great expense, or not at all. The destruction of an archaeological site is an example of an irreversible commitment. No irreversible effects are expected to occur within this project.

Irretrievable commitments represent opportunities foregone for the period during which resource use or production cannot be realized. Such decisions are reversible, but the production opportunities foregone are irretrievable. The construction of a classified road for long-term management is an irretrievable action. The commitment is irretrievable rather than irreversible, because timber harvest could be reestablished in this area, but the amount of timber production during the period of time when the land was used as a road could not be regained. Alternatives 2 and 6 would involve about 22.5 acres of irretrievable commitments. Alternatives 3 and 4 would involve no irretrievable commitments. Alternative 5 would involve about 14.5 acres of irretrievable commitments. These acres would be converted from forested land to a roadbed for an indefinite period of time.

Resource Information on the Geographic Information System

Much of the Tongass National Forest resource data resides in an electronic database formatted for a geographic information system (GIS). The Forest uses GIS software to assist in the analyses of these data. GIS data is available in tabular (numerical) format, and as plots displaying data in map format. For this EIS, all the maps and most of the numerical analyses are based on GIS resource data supported by field verification.

GIS data does have some limitations. This is especially true when comparing the data layers used for the Forest Plan with the project-specific data layers. The Forest Plan used point data for analyses because

the area to be analyzed covered a large area (17 million acres). Each point represented approximately 20.66 acres.

For smaller areas of land, polygon layers can be used. Project-level analysis done for environmental documents usually uses polygon data. These GIS layers have polygons of varying sizes. GIS data, which was often obtained by aerial photo interpretation, has been updated using data collected during field reviews done in 1997, 1998, and 1999. Areas that project activities may affect were field inventoried. Project-level layers will continue to be updated and added to the GIS layers as more information becomes available through implementation activities or other surveys.

Available Resource Information

There is incomplete knowledge about many of the conditions and relationships of forest resources and social needs. Forest management is a complex and developing science. Wildlife population dynamics and habitat relationships are not completely understood. The interaction of forest resource supply with economic and social conditions and communities is the subject matter of an inexact science. However, the basic data and central relationships are sufficiently well established in the respective sciences for the analysis of the Woodpecker Project Area for the Responsible Official to make a reasoned choice between the alternatives, and to adequately assess and disclose the possible adverse environmental consequences.

Discussion of Significant Issues

A significant issue provides the focus for one or more alternatives and can be used to compare alternatives. It is used to track environmental effects throughout the analysis. Significant issues for the Woodpecker Project Area were identified through public and internal scoping. Chapter 1 describes the process used to identify issues. Similar issues were combined where appropriate.

Once a significant issue is identified, measures are identified to analyze how each alternative responds to the concern. Measures are chosen that are quantitative (where possible), predictable, responsive to the issue, and linked to cause-and-effect relationships. These measures describe how the alternative affects the resource or resources at the heart of the issue.

The issues that were determined to be significant and within the scope of the project decision are;

- Deer Hunting,
- Recreation,
- Economics, and
- Crystal Inventoried Roadless Area.

Issue 1 - Deer Hunting

Sitka black-tailed deer is a species that ranges through all major habitats on Mitkof Island. This species receives the highest sport hunting and subsistence use of all terrestrial species in Southeast Alaska. As a Management Indicator Species for the Forest Plan and for the Woodpecker Project Area, Sitka black-tailed deer represent other species that use lower elevation old-growth forest habitats during the winter. See the Wildlife section of this chapter for additional information on Management Indicator Species.

The quantity and quality of winter habitat is considered the most limiting factor for Sitka black-tailed deer in Southeast Alaska (Suring, et al. 1992). Winter snow conditions affect deer populations through decreased forage availability, specifically in clearcut areas, and increased energy expenditures. The highest quality winter habitat exists on south-facing slopes below 800 feet in elevation, dominated by stands of timber in the high volume old-growth strata. The combination of a dense canopy with scattered openings allows forage growth in the openings, while the canopy modifies snowfall sufficiently to promote availability of forage and movement of deer.

Early successional stands provide forage for deer during mild winters and the remaining seasons. Sitka black-tailed deer disperse through and use a variety of vegetation communities throughout the year, and no specific corridor requirements have been identified.

Values of the Woodpecker Project Area for Deer Hunting

The Woodpecker Project Area is important to sport and subsistence deer hunters. Petersburg residents hunt for deer throughout the project area and use the existing road system for access. Most public comments concerning the Woodpecker Project Area indicate a desire to see deer habitat maintained or improved. Access to hunting areas should also be maintained or improved, according to public comments. The need to balance the habitat requirements of deer with other uses such as timber harvest was the subject of much discussion during the 1995 Mitkof Landscape Design.

While the harvest of deer within the Woodpecker Project Area is mainly for subsistence use, the social and recreational values of hunting are also important to area residents. The following are some of the many reasons Petersburg hunters choose to hunt in the project area.

- Many people do not have access to a suitable boat to travel to other islands, and can hunt only on Mitkof Island.

- The relatively easy access and close proximity of the Woodpecker Project Area to Petersburg makes it possible to hunt on weekends or on day trips.
- Because of the relatively gentle terrain and well-developed network of roads in the area, hunting in the Woodpecker Project Area is less physically challenging than in many other hunting areas on the Tongass.
- The virtual absence of brown bears on Mitkof Island makes deer hunting safer compared to hunting areas like Admiralty Island, where brown bears are common.

When combined, these factors remove many of the financial and physical barriers to the hunting experience for people who are not able to travel to more remote areas. It also provides an opportunity for parents to teach this traditional use of Alaska's resources to their children without a large expenditure of time or money and without the risks associated with travel to outlying areas.

Mitkof Island Deer Study

The USDA Forest Service, in cooperation with the Alaska Department of Fish and Game, is currently conducting a study of Sitka black-tailed deer on Mitkof Island. The study is designed to determine which habitats deer select and use throughout the year, to evaluate the Forest Plan deer model, to determine the vulnerability of deer to hunter predation, and to determine how wind disturbance regimes affect deer habitat selection. This project began in February 1997 with the capture of 32 deer. Radio collars were placed on these animals and they were monitored via weekly telemetry flights. In 1998, an additional 19 deer were captured and radio collared. A total of 3,241 telemetry locations of 51 deer have occurred since this project was started. The data collected is currently being analyzed.

Subsistence Use of Deer

Subsistence use areas and the levels of harvest were estimated from a variety of sources. The Alaska Department of Fish and Game records the level of community harvests for selected species, including deer, within specific areas referred to as Wildlife Analysis Areas (WAAs). All of Mitkof Island is contained within the Alaska Department of Fish and Game's WAA 2007. Estimates of deer harvests during periods of high deer populations and liberal seasons were derived from Doerr and Sigman (1986).

Deer are one of the most important subsistence resources for communities in Southeast Alaska. Mitkof Island currently provides about 15 percent of the deer harvested by Petersburg residents. Other popular

3 Deer Hunting

areas for subsistence deer hunting by Petersburg residents include the southern part of Admiralty Island, southern Kupreanof Island, Thomas Bay, and eastern Chichagof Island. An estimated 113 deer have been harvested annually on Mitkof Island in recent years (Table 3-1). About 44 percent of the island-wide harvest, or about 50 deer per year, was taken in the Woodpecker Project Area. In the 1960s, a series of mild winters combined with wolf control resulted in a large deer population that exceeded the carrying capacity of the land. During that time, deer seasons on Mitkof Island were liberal, and the island-wide harvest was estimated at 630 deer per year, which accounted for about 43 percent of the deer harvested by Petersburg residents (Doerr and Sigman 1986).

About 99 percent of the recent Mitkof Island deer harvest has been by Petersburg residents. Mitkof Island accounts for less than 0.5 percent of the reported deer harvest by Wrangell residents in recent years (ADFG 1995, 1996 and 1998, Paul and Straugh 1997 and 1998). Historically, Mitkof Island comprised about 4 percent of the deer harvested by Wrangell residents.

Table 3-1. Harvest of Deer Within WAA 2007 (Mitkof Island) and the Woodpecker Project Area, 1992 to 1999

Communities	Average Annual Harvest ¹	Percent Total Harvest
Subsistence		
Petersburg	112	99%
Wrangell	0.2	< 1%
Port Alexander	2.0 ³	-
Nonsubsistence		
Alaska	0.5	< 1%
Total Mitkof Island Harvest	113	100%
Est. Woodpecker Project Area Harvest²	50	44%

¹ Source of deer data is Alaska Department of Fish and Game (1995, 1996, 1998) and Paul and Straugh (1997, 1998).

² Percent of island-wide deer harvest taken in the Woodpecker Project Area was only available for years with a registration permit (1992-1994) and estimated in other years.

³ The reported annual harvest of two deer taken by Port Alexander residents is likely a coding error from the mail questionnaire survey. Community survey data does not show Mitkof Island being within the traditional deer harvest area of Port Alexander community residents (Forest Plan FEIS, Appendix H).

Direct Effects on Deer Hunting

Abundance and Distribution of Deer

Sitka black-tailed deer is a Management Indicator Species that prefers higher volume old-growth forests during winters with deep snow conditions. Young clearcuts provide poor winter habitat because they lack overstory canopies that can intercept snowfall. Older second-growth stands are typically poor winter habitat because they generally have closed canopies that shade out understory forage species. Important deer wintering areas within the Woodpecker Project Area include lower elevation forests on south aspects and adjacent to marine waters where snowfall is somewhat moderated by warmer weather.

There are about 3,370 acres of high value deer winter habitat in the Woodpecker Project Area (including state land). Of these acres, about 1,410 acres are located in old-growth habitat reserves, and about 760 acres are on non-National Forest System lands. Table 3-2 displays the amount of high value deer winter habitat proposed for harvest, and the percentage of the existing 3,370 acres that would remain after harvest in each alternative.

Table 3-2. High Value Deer Winter Habitat¹ in Proposed Harvest Units in the Woodpecker Project Area

Alternative	Acres in Proposed Harvest Units	Percent of Existing High Value Deer Winter Habitat Remaining After Harvest
1	0 acres	100 %
2	180 acres	95 %
3	110 acres	97 %
4	30 acres	99 %
5	100 acres	97 %
6	140 acres	96 %

¹ Deer habitat suitability index > 0.66; See Figure 3-1.

Forest Plan Interagency Deer Habitat Capability Model

The interagency deer habitat capability model developed for the Forest Plan was used in combination with the Stand Visualization System (SVS) and the Forest Vegetation Simulator (FVS) computer programs to predict the potential number of deer that the habitat within the Woodpecker Project Area can support over time. The result is not an actual population number, but a theoretical long-term carrying capacity given

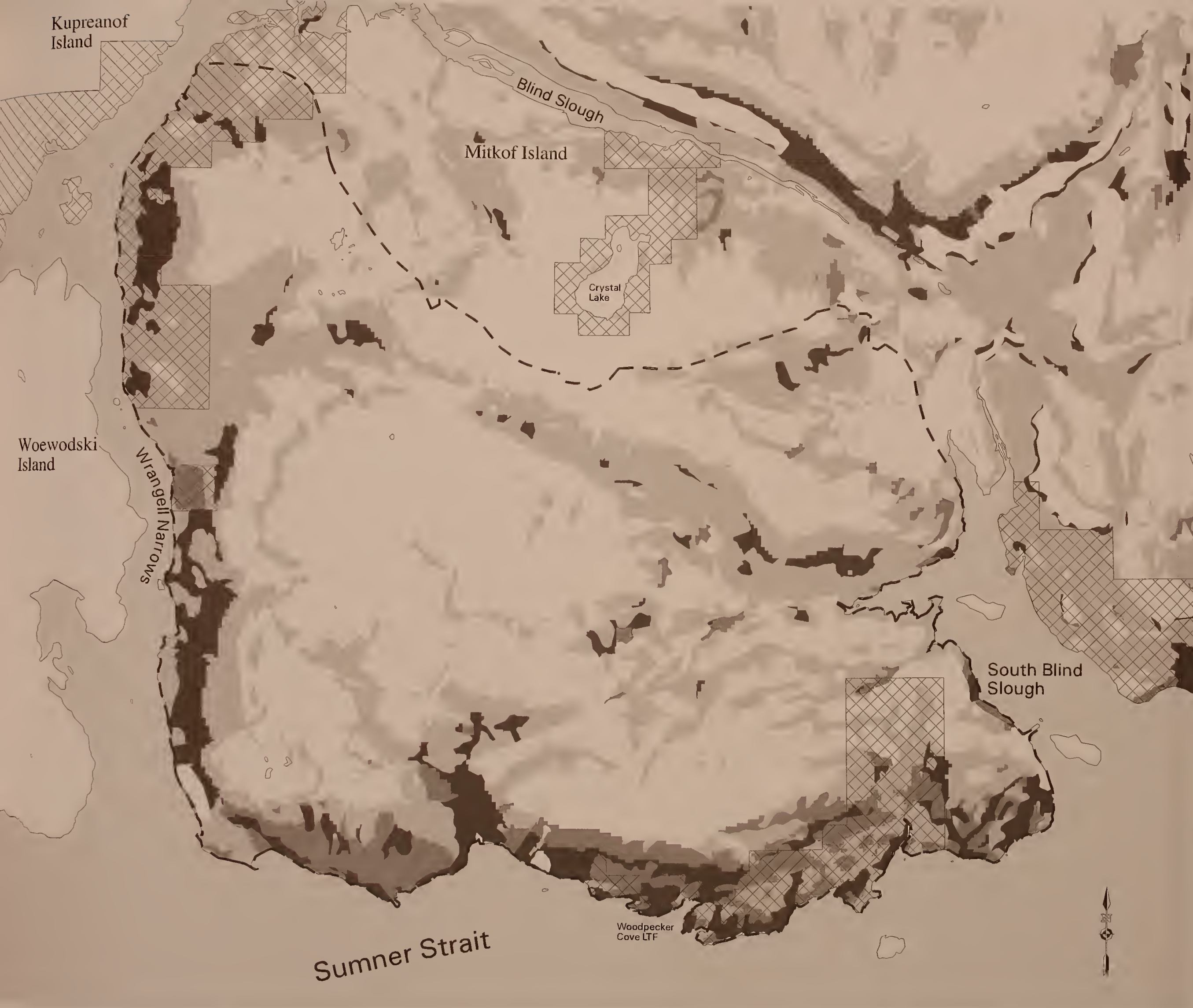
3 Deer Hunting

normal winter conditions. The number is useful for comparing alternatives only, and is not intended to estimate actual deer abundance.

The SVS and FVS computer models were developed by the University of Washington to graphically and statistically depict what a stand would look like following timber harvest. Integrated Resource Inventory data collected on each of the proposed Woodpecker Project Area timber harvest units were input into the FVS program to project future stand growth. The deer winter habitat capability model takes into account snow depths, winter severity, the value of lower elevations and the more southerly aspects, and conifer forest successional stages. Old-growth forests have the highest value because they intercept snow and provide understory forage plants. Lack of snow interception in early successional stages and lack of forage in middle successional stages reduce their value as habitat. Figure 3-1 shows the distribution of high value deer winter habitat within the Woodpecker Project Area.

The Habitat Suitability Index (HSI) generated by the interagency deer habitat capability model ranges in value from 0, indicating no habitat value, to 1.3, indicating the optimal habitat value. These values are used to calculate theoretical numbers of deer that particular habitat types could support, and to estimate changes in habitat capability resulting from timber harvest activities. An HSI value of 1.0 represents habitat capable of supporting 125 deer per square mile. Person et al. (1997) suggested, based on analysis of deer pellet data, that 100 deer per square mile is more appropriate when converting HSI values into deer habitat capability. A Forest Plan amendment has been recommended by interagency agreement to adopt 100 deer per square mile as the habitat score for an HSI of 1.0, unless project-level data suggest otherwise. However, current Forest Plan direction recommends a value of 125 deer per square mile.

The Forest Plan interagency deer model was based on clearcut harvest only. This model output was used to predict a "worst case scenario." The results of the model were then modified for the Woodpecker Project Area to account for the partial harvest prescriptions. Units with partial retention of 20-30 percent were considered as clearcuts for use in the deer model, even though some trees will remain. Openings created by removing trees in patches are assumed to affect deer habitat in a manner similar to clearcutting. If 25 percent of a unit were harvested in patches, the harvested 25 percent would have deer habitat values equal to a clearcut and the other 75 percent of the unit would have the stand's original values. Removal of 25 percent of the trees throughout the stand would initially lower the volume of the existing stand. For example, a high volume stand would be a medium volume stand immediately after harvest. The stand would return to high volume within about 40 years.



Woodpecker Project Area Figure 3-1

Deer Winter Habitat

LEGEND

- HSI 0 to .10
- HSI .11 to .35
- HSI .36 to .65
- HSI $\geq .66$ (High Habitat Value)
- Saltwater
- Non-National Forest System Lands
- Project Area Boundary

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0 5280 10560

Scale is 1 inch = 5280 feet

With 34-50 percent removal, the stand would decline to low volume and return to medium volume within about 40 years.

The Forest Plan deer model assumed that deer populations would be maintained about 36 percent below carrying capacity in areas such as the Woodpecker Project Area where wolves are present. This reduced value represents the deer habitat potential used in the subsistence analysis. The deer model suggests that prior harvest of deer winter habitat has reduced deer habitat capability in the Woodpecker Project Area by about 12 percent since 1954. However, several years of pellet-group counts within the project area (Kirchhoff 1999) suggest that the deer population remains moderately high.

Table 3-3. Estimated Changes in Deer Carrying Capacity in the Woodpecker Project Area

Alt.	Year	Estimated Deer Carrying Capacity (# of animals ¹)	Percent Change	
			Alternative Change	Cumulative Change from 1954
1	1954	1,977	0	0
	2003 ²	1,736	0	-12.2
	2043 ³	1,569	-9.6 ⁴	-20.6
2	2003	1,710	-1.5	-13.5
	2043	1,539	-11.3	-22.1
3	2003	1,721	-0.9	-12.9
	2043	1,554	-10.5	-21.4
4	2003	1,706	-1.8	-13.7
	2043	1,542	-11.2	-22.0
5	2003	1,695	-2.4	-14.3
	2043	1,515	-12.7	-23.4
6	2003	1,712	-1.4	-13.4
	2043	1,542	-11.2	-22.0

¹ Deer numbers shown are the estimated deer habitat potential assuming a theoretical winter carrying capacity of 125 deer/sq. mile in habitats with a suitability index of 1.0.

² For the purposes of display and analysis only, it is assumed the timber harvest proposed in the alternatives will occur by 2003.

³ The deer model estimates that canopy closure in the second-growth stands will occur by approximately 40 years after harvest.

⁴ The decrease in deer carrying capacity for the No-Action Alternative (Alt. 1) is due to canopy closure of the second-growth forest. This analysis does not incorporate thinning between 2003 and 2043.

3 Deer Hunting

Impacts of the proposed alternatives on deer are evaluated with respect to changes in long-term carrying capacity predicted by the deer model (Table 3-3). This model estimates that deer carrying capacity will decline 9.6 percent by 2043 (about 40 years after project implementation) under the No-Action Alternative (Alternative 1). Alternative 3 would result in an additional 0.9 percent decline. Alternatives 4 and 6 would result in an additional 1.6 percent decline compared to the No-Action Alternative. Alternative 2 would result in an additional decline of 1.7 percent compared to the No-Action Alternative. Alternative 5 would result in the highest decline, 3.1 percent, compared to the No-Action Alternative. The estimated long-term decline in deer carrying capacity expected to result from proposed timber harvests in the action alternatives ranges from 15 to 54 deer.

The model predicts that the greatest impact to deer habitat in the Woodpecker Project Area is future loss of forage in existing second-growth forest due to conifer regeneration and subsequent closure of the tree canopy, which shades out forage plants. Currently, second growth stands on National Forest System lands in the Woodpecker Project Area have abundant understory and are not in need of thinning. Future thinnings in roughly 10 to 20 years may be necessary to maintain understory forage and could prevent the expected 10 percent decline in deer habitat potential within the project area (See Table 3-3).

Supply and Demand

The estimated number of deer taken during the period of liberal seasons in the 1960s provides an estimate of the demand for deer. If the demand for deer exceeds the supply, then a significant possibility of a significant restriction on subsistence hunting exists. The assumption is that approximately ten percent of the deer population can be harvested on a sustained basis if the population is near carrying capacity (Person et al, 1996). Thus, the minimum number of deer needed in an area is approximately ten times the subsistence hunter demand for deer; otherwise, a restriction on subsistence hunting may result.

In the 1960s, the Woodpecker Project Area had a four to five month deer season with a four deer bag limit. In 1972, the deer population crashed dramatically due to severe winters. The hunting season was closed from 1973 to 1991. Since 1991, the southern portion of Mitkof Island has had a 16-day season with a one-buck bag limit. This limited season appears to be supported by many local residents as a necessary restriction on traditional harvest periods and bag limits. Others feel that they should be able to harvest as many deer as they need from Mitkof Island. The traditional demand for deer on Mitkof Island by Petersburg residents exceeds current supply, given the number of hunters, the available

habitat, and the current restrictive season and bag limit. The State of Alaska and the Federal Subsistence Board are responsible for determining the number of deer available for harvest.

Current Demand and Subsistence Use

Subsistence use of deer in the Woodpecker Project Area was estimated using both 44 percent of the historical island-wide harvest from 1960-68 and the recent island-wide harvest from 1992-1999, and assumed a 15 percent increase per decade, following human population projections given in the Forest Plan. The current estimated annual subsistence demand for deer within the Woodpecker Project Area, based on historical harvest records during periods of liberal deer seasons, extrapolated to account for human population growth, is 420 deer. Using reported recent harvests during a period of extremely restricted hunting seasons, the estimated annual subsistence use of deer within the Woodpecker Project Area is 50 deer.

Future Demand

Communities that currently use the Woodpecker Project Area for deer hunting will continue to do so in the foreseeable future, if the area remains open for deer hunting. All alternatives are estimated to provide sufficient habitat to maintain a deer harvest of at least 119 deer per year immediately following timber harvest, and at least 106 deer per year by about 40 years after harvest (assumed to be 2043 for this analysis). This is more than twice the current estimated harvest rate within the project area, but far less than the demand for deer based on historical harvest levels. There are too many hunters and not enough deer habitat to maintain a deer harvest rate equivalent to that which occurred in the 1960s, based on our current understanding of deer habitat capability.

The action alternatives are expected to reduce deer habitat capability within the Woodpecker Project Area by 15 to 54 deer compared to the No-Action Alternative. This may result in a reduction of about 1 to 5 deer available for harvest. This is not expected to result in additional restrictions to deer hunting on Mitkof Island. The model projections also suggest that there will be sufficient deer habitat about 40 years after harvest (assumed to be 2043 for this analysis) to maintain a 15 percent increase per decade in the current deer harvest level (equivalent to the projected increase in human population).

Access to Deer

Because the existing road system within the Woodpecker Project Area connects directly to the community of Petersburg, roads are used

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extensively for hunting access. The Mitkof Island Road Analysis determined that keeping the current level of roads open for public use best met environmental and social objectives. The proposed Road Management Objectives (Appendix B) will keep motorized access near the current level. Most newly constructed roads built for long-term use and all new temporary roads would be closed after timber harvest in all action alternatives. Alternatives 2 and 6 propose a new loop road connection (0.8 miles of new road construction) between the present end of Road 6282 and Milepost 11.2 on the Woodpecker Road (Road 6245). One mile of new road (Road 40822) that would remain open after timber harvest is proposed in Alternatives 2, 5, and 6. New road access would not change in Alternatives 3 and 4.

Approximately 10 miles of existing classified roads within the Woodpecker Project Area are presently inaccessible to most vehicle traffic due to thick alder growth on the roadway. These roads (6280, 6281, 6283, 6284, and 40083) receive occasional use during the hunting season by foot traffic, ATVs and 4-wheel-drive users. These roads are proposed to be placed in storage by closing them to vehicle traffic and removing their drainage structures. Because motorized use of these roads is occasional, these closures should have little adverse effect on access by subsistence deer hunters. Access by foot will remain unchanged on these roads.

Competition for Deer

Competition is closely linked to access. Improving access to an area may benefit subsistence users who often depend on a road to transport their animals out of the field. On the other hand, increased access could increase competition and may have a long-term adverse impact for subsistence users if an unsustainable deer harvest occurs.

There are approximately 30 open road miles in the Woodpecker Project Area. Most hunting occurs within about one mile of each side of these roads, and along the approximately 15 miles of closed roads within the project area. Occasional competition may come from beach access, as well. An increase in hunters could occur in all action alternatives due to improved access. Much of the increased hunting would be by other local subsistence hunters.

If temporary floating logging camps are established at Woodpecker Cove, some additional subsistence or non-subsistence hunters may access the area. The limited duration of the deer-hunting season should minimize the likelihood of over-harvest. Subsistence users would have ANILCA preference over non-subsistence users if deer populations were reduced to levels that required restrictions on harvests.

None of the action alternatives are expected to affect competition between rural and non-rural residents. None of the alternatives change existing access patterns. Proposed changes in the Alaska Marine Highway System are expected to increase the number of people visiting Mitkof Island, but would also provide opportunities for Petersburg residents to access nearby islands for subsistence activities. Potential conflicts among user groups for deer would be the same among all alternatives.

Cumulative Effects

The subsistence analysis evaluates whether the project, in combination with other past, present, and reasonably foreseeable future actions, may significantly restrict subsistence uses. Although the precise location of future projects is not clearly known, some statements can be reasonably made about future impacts.

Action on non-federal lands in the Woodpecker Project Area may affect subsistence resources harvested by local residents. The State of Alaska has planned no timber harvest on state lands within the Woodpecker Project Area in their current five-year plan for Fiscal Years 2000 through 2004. The state's Central/Southern Southeast Area Plan (November, 2000), which covers a longer planning period, identified possible future timber harvest only within the state land adjacent to Road 6245. In order to protect important deer winter habitat, selective harvest in 60-acre blocks is planned, except for the northeast portion where conventional harvest may occur. No harvest is planned on state land in the northwest part of the Woodpecker Project Area. These areas have been designated for dispersed recreation use and to retain scenic values.

The proposed Alaska Marine Highway ferry terminal on the south end of Mitkof Island could increase the number of hunters on Mitkof Island, or it could decrease hunting pressure by giving Petersburg subsistence hunters opportunities to travel to other areas that have more liberal deer seasons, such as Prince of Wales Island.

Other timber harvests planned on Mitkof Island in the near future outside the Woodpecker Project Area may decrease deer habitat capability on Mitkof Island. Current deer habitat model projections indicate that there is sufficient habitat to support an island-wide harvest of about 400 deer, which far exceeds the current harvest of 115 deer. Presently deer harvests are limited by factors other than habitat potential. The cumulative effects of past activities, in combination with this project and foreseeable future logging activities on Mitkof Island is not expected to result in a change in restrictions to the current deer harvest season or bag limit.

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The Forest Plan addressed the long-term consequences on subsistence and concluded that a significant restriction on subsistence use of deer may result due to the potential effects of project-level decisions. The evaluation for the Woodpecker Project Area concludes that a significant possibility of a significant restriction on the current level of subsistence deer harvest on Mitkof Island may occur; however, the implementation of any alternative, including the No-action Alternative, by itself does not present this possibility. Also, it is very unlikely that the historical deer seasons, bag limits, and harvest levels of the 1960s will be achieved in the foreseeable future in the No-Action Alternative.

Measures to Avoid or Minimize Cumulative Effects

Additional measures are designed to maintain a huntable deer population. These measures include; 1) avoiding timber harvest in higher value deer winter habitat, 2) using old-growth reserves to protect key deer winter habitat, 3) using a 200-year extended rotation for timber management, 4) using partial harvest treatments rather than traditional clearcutting, and 5) maintaining a sustainable deer population through hunting regulations.

The Mitkof Island Deer Study currently underway has confirmed that the southern end of Mitkof Island is important deer winter habitat. We used the interagency deer model to identify the most important deer winter habitat in the Woodpecker Project Area. Consequently, several areas of high value deer winter habitat within the project area were avoided when selecting proposed timber harvest units to allow existing harvested units to return to a more natural condition before scheduling new harvest activity. The alternatives for this analysis propose timber harvest for only 1 to 5 percent of the existing high value deer winter habitat in the Woodpecker Project Area.

Old-growth Habitat Reserves

Small old-growth habitat reserves, which were designed to include some of the most important deer wintering areas on Mitkof Island, were located during the Mitkof Landscape Design analysis. These reserves were subsequently incorporated into the Forest Plan during the revision process. These reserves were reviewed during the analysis for this project, in accordance with Forest Plan direction. A description of the old-growth habitat reserve design options developed during the analysis for the Woodpecker Project Area is found in the Biodiversity section of this chapter, and in Chapter 2.

Two Hundred Year Rotation

An extended rotation was considered during the analysis of the Forest Plan for several alternatives and was found by panel assessments to contribute to the habitat capability of many wildlife species, including

deer. Because the Woodpecker Project Area is an important area for subsistence use of deer on Mitkof Island, and considering past timber harvest in the area, a 200-year rotation was used for all proposed timber harvest units.

Partial Harvest Treatments

All alternatives incorporate partial harvest of timber, which leaves varying amounts of standing green trees within the stands. Maintaining the overstory cover of mature trees, especially when 50 percent or more of the existing forest will remain, will minimize impacts to deer winter habitat by maintaining trees that can intercept snow. We also prescribed harvest treatments (50 percent or more retention) that would reduce the impacts to the areas below 800 feet that contain high value deer winter habitat. Based on a retrospective study (Deal and Tappeiner 2000), silvicultural systems based on partial cutting can provide rapidly growing trees while maintaining complex stand structures with mixtures of spruce and hemlock similar to old-growth stands. The Unit Cards in Appendix B and the Alternative maps in Chapter 2 show the timber harvest treatments for each proposed unit.

Thinning

The Petersburg Ranger District thins previously harvested stands on National Forest System lands at 20 to 25 years following harvest. Each stand is monitored and site-specific information is collected to determine the optimal time for thinning to occur. All previously harvested units on National Forest System lands in the Woodpecker Project Area have either already been thinned if they were ready, or are planned to be thinned at appropriate intervals to prevent loss of forage from canopy closure.

Deer Population Control

The Forest Service, in cooperation with the Alaska Department of Fish and Game and the Federal Subsistence Board, manages deer habitat to support a healthy deer population. Wolf control is no longer being conducted on Mitkof Island. Deer harvests are monitored and harvest limits are adjusted when necessary. Given these factors, it is unlikely that the deer population will expand above the carrying capacity of the land and become vulnerable to a large die-off like the one that occurred in the early 1970s.

Issue 2 – Recreation

The Woodpecker Project Area is less than an hour's drive from the City of Petersburg (population 3,415). This easy access is a major influence on the patterns of recreational use of the area. Many equally attractive areas of the Tongass National Forest are used much less than the Woodpecker Project Area because they are less accessible. Kuiu Island, for example, has a similar road system, but is used much less, since there are no communities on Kuiu island, and it is difficult to transport a vehicle there. Numerous public comments received during the development of the Mitkof Landscape Design (1995) reflected the importance of the Woodpecker Project Area for a wide range of roaded and non-roaded recreation activities.

Recreation Opportunity Spectrum

To describe, identify, and quantify recreation settings, the Forest Service uses the Recreation Opportunity Spectrum (ROS). The ROS categorizes areas by their activities, remoteness, access, and experiences in a spectrum of classes from Primitive to Urban. The Woodpecker Project Area has four of the seven ROS classes: Semi-primitive Non-motorized, Semi-primitive Motorized, Roaded Natural, and Roaded Modified (Figure 3-3). About 33 percent of the area is classified as Semi-primitive Non-motorized; about 1 percent is Semi-primitive Motorized; about 15 percent is Roaded Natural; and about 51 percent is Roaded Modified (Figure 3-2).

Semi-primitive Non-motorized

Semi-primitive Non-motorized areas are natural or natural-appearing environments generally greater than 2,500 acres in size and generally located at least ½ mile but less than three miles from all roads and other motorized travel routes. Concentration of users is low (generally less than 10 group encounters per day), but there is often evidence of other users. There is a high probability of experiencing solitude, freedom, closeness to nature, tranquility, self-reliance, challenge, and risk. No roads are present in the area. Semi-primitive Non-motorized areas occur in the interior portion of the Woodpecker Project Area, around the Sumner Mountains and Crystal Mountain.

Semi-primitive Motorized

Semi-primitive Motorized areas are also natural or natural-appearing environments generally greater than 2,500 acres in size. They are generally located within ½ mile of primitive roads, but not less than ½ mile from more developed roads and other motorized travel routes. Concentration of users is low (generally less than 10 group encounters

per day), but there is often evidence of other users. There is a moderate probability of experiencing solitude, closeness to nature, and tranquility along with a high degree of self-reliance, challenge, and risk in using motorized equipment. Local roads may be present, and there may be extensive boat traffic along saltwater shorelines. In the Woodpecker Project Area, the Semi-primitive Motorized lands are all located along shorelines, mostly in the southeast part of the area.

Roaded Natural

Areas classified as Roaded Natural are predominantly natural environments with moderate exposure to the sights and sounds of humans. This includes areas less than ½ mile from roads open to public travel, waterways, and major power lines, and within resource modification areas. The area surrounding the northwestern part of Road 6245 is classified as Roaded Natural due to the limited presence of timber harvest units there.

Roaded Modified

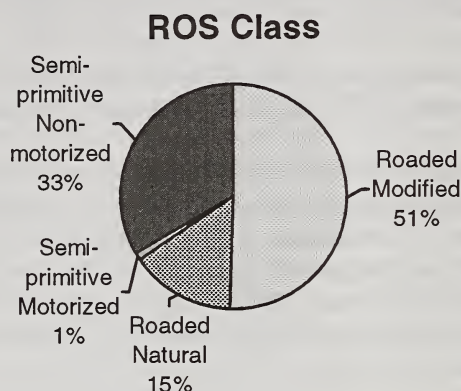
In areas classified as Roaded Modified, substantial modifications of vegetation and landforms typically dominate the landscape. There is moderate evidence of other users on roads and in dispersed areas (generally less than 20 encounters per day). A feeling of independence and freedom exists with little challenge and risk. Recreation users will likely encounter timber management activities. Most of the areas surrounding existing roads and timber harvest units in the Woodpecker Project Area are classified as Roaded Modified.

Effects of the Alternatives on ROS Classes in the Project Area

Timber management activities can affect ROS classes and recreation sites by changing their visual characteristics. As a result, ROS classes and the type of recreational opportunities available may change. The Forest Plan Recreation Standards and Guidelines acknowledge that timber management activities can affect recreation settings, and emphasize the importance of adapting recreational opportunities as changes occur. Where scheduled activities change the recreation setting, the new setting is to be managed in accordance with the appropriate ROS guidelines. The standards and guidelines also provide for maintaining the capability of all land use designations to provide appropriate quality recreation opportunities on a sustained basis.

All the action alternatives would modify the existing ROS classes in the project area by increasing Roaded Modified acres and decreasing Roaded Natural and Semi-primitive Non-motorized acres (Tables 3-4 and 3-5). All action alternatives would change 1,940 acres in the Roaded Natural class to Roaded Modified as a result of the timber harvest proposed near the north end of Road 6245. The number of acres in the Semi-primitive Motorized class would not change in any action alternative.

Figure 3-2. Recreation Opportunity Spectrum Class in the Woodpecker Project Area



ROS Class	Acres ¹	Percent
Semi-primitive Non-motorized	9,460	33%
Semi-primitive Motorized	350	1%
Roded Natural	4,290	15%
Roded Modified	14,340	51%
TOTAL ACRES	28,440	100%

¹ Does not include non-National Forest System lands (state and private) within the Woodpecker Project Area boundary

Alternative 1 would have no effect on ROS classes in the Woodpecker Project Area. Alternative 2 would change 1,270 acres in the Semi-primitive Non-motorized class to Roded Modified. Alternative 3 would have the least effect, with 260 acres in the Semi-primitive Non-motorized class changing to Roded Modified. Alternatives 4 and 5 would have the greatest effect on ROS class by changing 2,280 and 2,230 acres respectively from Semi-primitive Non-motorized class to Roded Modified. In Alternative 4, the ROS class changes to Roded Modified are mainly from helicopter harvest, which includes no proposed road access. Alternative 5 proposes some timber harvest units with helicopter harvest and some units with road access. After harvest, Alternatives 2, 5 and 6 would each have about a mile of open, new road in the currently unroaded area of west Sumner Creek. Alternatives 2 and 6 also propose a new loop road connecting Road 6245 with Road 6282. This area is already classified as Roded Modified so its ROS class would not change.

Kupreanof Island

Woewodski Island

Mitkof Island

Blind Slough

Mitkof Highway

Crystal Lake

Wrangell Narrows

December Point

Wolf Track Lake

South Blind Slough

Woodpecker Cove Demo Area

Woodpecker Cove LTF

Sumner Strait

Woodpecker Project Area Figure 3-3

Recreation Opportunity Spectrum (ROS) Classes

LEGEND

- Roaded Natural
- Semi-Primitive Motorized
- Semi-Primitive Non-Motorized
- Roaded Modified
- Recreation Places
- Non-National Forest System Lands
- Lakes
- Streams
- Roads
- Project Area Boundary

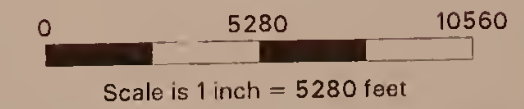




Table 3-4. Recreation Opportunity Spectrum (ROS) Class Acres in the Woodpecker Project Area

ROS Class	Alt. 1 Acres ¹	Alt. 2 Acres ¹	Alt. 3 Acres ¹	Alt. 4 Acres ¹	Alt. 5 Acres ¹	Alt. 6 Acres ¹
Semi-primitive Non-motorized	9,460	8,190	9,200	7,180	7,230	8,095
Semi-primitive Motorized	350	350	350	350	350	350
Roaded Natural	4,290	2,350	2,350	2,350	2,350	2,350
Roaded Modified	14,340	17,550	16,540	18,560	18,510	17,645

¹ Does not include non-National Forest System lands (state and private) within the Woodpecker Project Area boundary

Table 3-5. Recreation Opportunity Spectrum (ROS) Class Percentages in the Woodpecker Project Area

ROS Class	Percent of Project Area ¹					
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Semi-primitive Non-motorized	33%	29%	33%	25%	26%	29%
Semi-primitive Motorized	1%	1%	1%	1%	1%	1%
Roaded Natural	15%	8%	8%	8%	8%	8%
Roaded Modified	51%	62%	58%	66%	65%	62%

¹ Does not include non-National Forest System lands (state and private) within the Woodpecker Project Area boundary

Recreation Places and Recreation Sites

Recreation Places are specific areas, identified by the Forest Plan, that have one or more physical characteristics that are particularly attractive to people for recreation activities. These activities can be dispersed throughout the Recreation Place or be concentrated at specific Recreation Sites. A Recreation Site is a specific site and/or facility found within a Recreation Place. Recreation Sites generally refer to specific points like anchorages or developed facilities such as recreation cabins and trailheads. Since the majority of the Tongass National Forest is

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undeveloped, it is primarily used for dispersed recreation activities. Viewing scenery and wildlife, boating, fishing, beachcombing, hiking and hunting are the primary dispersed recreation activities that take place.

The Forest Plan direction for Recreation Places in the Modified Landscape and Scenic Viewshed land use designations (LUDs) is to seek to maintain the existing ROS class. When approved activities nearby may result in a change to the ROS class, the impacts should be minimized so that a Roaded Natural or other more natural ROS class is maintained. All of the Recreation Places and Sites within the Woodpecker Project Area are in the Modified Landscape, Scenic Viewshed, or Old-growth Habitat LUDs.

There are three Recreation Places and two Recreation Sites identified in the Woodpecker Project Area. One of the Recreation Places is a cabin under Special Use Permit, located in the vicinity of the December Point anchorage. Another Recreation Place includes the road corridor of the Woodpecker Road (Road 6245) to about milepost 11. The Woodpecker Cove Demonstration Area is also identified as a Recreation Place. The two Recreation Sites are anchorages – one at the Woodpecker Cove LTF site and one just south of December Point on the Wrangell Narrows.

None of the proposed alternatives will change the ROS class in any of the existing Recreation Places or Recreation Sites. The proposed timber harvest will have a minimal effect on the existing Recreation Sites.

If the existing Woodpecker Cove LTF is used for log transport, use of the anchorage there may be temporarily affected. Boaters may be displaced while barges are being loaded and moved into and out of the site.

There will be no permanent effect on the anchorage south of December Point on the Wrangell Narrows with any of the proposed alternatives. The sound of logging activity may be apparent to boats anchored there during the harvest of units 77, 78a, 148, 148a, 149, and 150, which are all within one mile of the anchorage. The sounds would be of short duration. Due to the forested foreground, the units will not be visible from the anchorage.

The Special Use cabin located south of December Point will be only minimally affected by the proposed timber harvest. The ROS class of Roaded Natural will remain unchanged in all alternatives, but the sound of logging activity may be apparent during short periods while some units within one mile of the cabin are being harvested. Units 77, 78a, 148, 148a, 149, and 150 are located within one mile of the cabin. Due to the forested background, the units would not be visible from the cabin site.

The Woodpecker Road Recreation Place would have increased logging traffic during active harvest periods in all action alternatives. This would be a temporary effect. The proposed road maintenance strategy would improve access for recreationists, including hunters, in the area after logging is complete.

The Woodpecker Cove Demonstration Area Recreation Place would not be adversely affected by any of the proposed alternatives. The area would be enhanced in Alternatives 2, 4, 5, and 6 with the recreation projects proposed there. See Appendix B for descriptions of the proposed recreation projects.

There are also several Recreation Places and Sites located nearby but outside the project area. These include the campground at Ohmer Creek, Ohmer Creek Trail, Manmade Hole Picnic Area, Blind Slough Picnic Area, and Crystal Mountain. A little farther away are the Swan Observatory and Blind River Rapids trail. None of these places will be affected by any of the proposed alternatives.

Existing Recreation Use

Tourism

Most of the people who use the Woodpecker Project Area for recreation are local residents. Few tourists visit the area, due to the distance from Petersburg and the rough condition of the roads. However, many people view the area from the water in private pleasure boats, charter boats, cruise ships, and the Alaska Marine Highway ferries. Portions of the Woodpecker Project Area can be seen from Sumner Strait, Wrangell Narrows, and South Blind Slough.

None of the alternatives are expected to have a significant effect on tourism in the Woodpecker Project Area. If a new ferry terminal is built on the south end of Mitkof Island, more tourists may drive into the Woodpecker Project Area looking for recreation opportunities. This is discussed further in the Recreation Cumulative Effects section.

Outfitter/Guides

While several outfitter/guides have named places within the Woodpecker Project Area as possible destinations, few have actually used the area in the recent past. In 1998, one permitted outfitter/guide took groups of two to four people to fish in Sumner Creek. A total of 12 clients fished there. One kayak guide has used the Woodpecker Cove LTF site as a starting point for 30-day paddle trips. Twelve clients used the site on three separate days in 1999. In 2000, the guide used the site with 12 clients on

five separate occasions. The kayakers had views of the southwestern corner of the project area as they paddled west from Woodpecker Cove.

Outfitter/guide use in the Woodpecker Project Area is not expected to increase much beyond the few current permits. Timber harvest in the proposed units would not affect these uses. The use of roads and the LTF during logging activities would have short-term effects. All of the alternatives are expected to have a minimal effect on outfitter/guide activities in the Woodpecker Project Area.

Local Use

Residents of Petersburg and the surrounding area use Mitkof Island extensively for recreation activities. The Woodpecker Project Area is used less than some other areas on the island, such as the Three Lakes Recreation Area and Blind Slough, but it is still a place where people go to get away and enjoy themselves. The lower levels of use in the project area relative to other parts of the island are due to the distance from town and the relatively undeveloped nature of the area.

Effects to local residents would be most noticeable during active logging if an action alternative were chosen. During logging activities there would be increased traffic on the roads and the sights and sounds of logging would be apparent. The effects on scenery in the area are discussed in the Scenery section of this chapter.

Hunting

Deer and moose hunting in the Woodpecker Project Area are popular activities for local residents. Currently, there is a two-week deer hunting season and a one-month moose-hunting season on Mitkof Island. During this time, many vehicles can be seen parked in turnouts and on spur roads in the area. Most hunters in the Woodpecker Project Area are day hunters, but a few set up temporary hunting camps. Waterfowl hunting is also a popular activity in the Sumner Creek estuary and South Blind Slough area.

Effects on hunting are discussed in detail in the Deer Hunting and Subsistence sections of this chapter. The proposed road turnouts and dispersed campsites in Alternatives 2, 4, 5, and 6 could enhance the hunting experience in the area.

Sport Fishing

A small amount of sport fishing for trout and salmon occurs in Sumner Creek. Sport trolling for king salmon occurs in the Woodpecker Cove

area of Sumner Strait. With the use of Forest-wide Riparian Standards and Guidelines, plus estuary and beach buffers of 1,000 feet, it is unlikely that fish populations would be adversely impacted by any of the alternatives.

In the summer of 1998, the Alaska Department of Fish and Game (ADF&G), with support from the USDA Forest Service, transplanted about 250 arctic grayling from Kane Lake on north Kupreanof Island to Wolf Track Lake in the southwest portion of the Woodpecker Project Area. Fishing at Wolf Track Lake will not be allowed until the grayling population is able to withstand fishing pressure. This area may also be developed as a small, dispersed picnic site.

There would be no effects on sport fishing in the area from any of the action alternatives.

Existing Recreation Opportunities

In the 1995 Mitkof Landscape Analysis, the recommended recreation strategy was to emphasize developed recreation closer to Petersburg and to emphasize dispersed recreation farther from town. The Woodpecker Project Area is considered far from town relative to other recreation areas on the island. Therefore, dispersed recreation with low-level development will be emphasized in the project area.

The 1991-1996 Petersburg Ranger District Recreation Plan generated many public comments about recreation projects people would like to see on Mitkof Island. Only a few ideas were suggested specifically for the Woodpecker Project Area, but a number of projects were suggested for nearby areas like Blind Slough, Ohmer Creek, and Crystal Mountain.

During the Woodpecker Project Area open houses, the public had a few comments about recreation. One concern was that the maintenance level of the Snake Ridge Road should allow passenger-type vehicles. Another concern was the poor condition of the footpath used to access Crystal Ridge and Crystal Mountain.

Several recreation projects are proposed in Alternatives 2, 4, 5, and 6. Alternatives 2 and 6 also propose a loop road connecting the Woodpecker Road (Road 6245) with Road 6282 to the north. See the Recreation Cards in Appendix B for maps of the proposed projects.

Woodpecker Cove Area

Woodpecker Cove Log Transfer Facility

The Woodpecker Cove Log Transfer Facility (LTF) was built in 1975 and was last used to transfer harvested logs about 1990. The LTF is located on 3.5 acres of National Forest System land that are surrounded by state land. When the LTF site is not being used to transfer logs to the water or onto barges, the public uses the area for picnicking and as an access to the beach. The cove is also used as a small boat anchorage, and one outfitter/guide has used the area as a staging area for kayak trips. Local scuba divers have used the cove for training.

The Woodpecker Cove LTF may be used during one or more of the sales planned if an action alternative is chosen. During active use of the LTF, the public may be temporarily displaced from the area.

Undeveloped Recreation Site at Milepost 10.5

An undeveloped recreation site is located about two miles west of the Woodpecker Cove LTF, at milepost 10.5. It consists of a turnout suitable for one vehicle and a fire ring. The site is being adversely impacted by use. Vegetation is showing damage from trampling and the root systems of some of the large spruce are being undercut. In 1993, an environmental assessment (EA) was completed to analyze the site for possible expansion and development. At that time, the decision was to leave the site as an undeveloped picnic site for the following reasons:

“The Woodpecker Road site is not conducive to development as a picnic area. A barrier-free picnic facility at this site would be difficult to construct due to the limited amount of usable space and the steep, rough terrain. Removal of the many hazard trees at this site would significantly detract from the current ‘old-growth forest character’ of the area. A long drive over a poorly maintained road to reach this area would not make this site a good choice for development” (Woodpecker Road/Blind Island Picnic Area Environmental Assessment, 1993).

The factors of limited space and steep, rough terrain still exist today at this site. Removing hazard trees would drastically change the character of the site.

Woodpecker Cove Demonstration Area Trail and Picnic Sites

The Woodpecker Cove Demonstration Area was established in 1993 to demonstrate the effects of different tree thinnings on wildlife and plant diversity in a stand of young second-growth. It is located along Road 6287, which is used for a trail, and is closed to motorized traffic. The first ½ mile of Road 6287 consists of an alder-lined path, several markers

identifying the different thinning units, and two viewpoints with picnic tables. A sign at the trailhead orients visitors to the site and explains the layout of the thinning units. A brochure describing the site is available at the Petersburg Ranger District office and at the Visitor Information Center in Petersburg.

In the past few years, alder has grown up along the path and at the picnic sites to the point where foot and bicycle travel is hindered and the views of Sumner Strait are obscured.

Proposed Recreation Enhancements¹

Dispersed Picnic/Camp Site Near Milepost 11.1 on Road 6245

To help alleviate the environmental damage to the existing dispersed recreation site at milepost 10.5, a new dispersed recreation site is being proposed farther to the west. This proposed development would be located near the bridge at milepost 11.1 on Road 6245. It is intended as an alternative to the existing site near Woodpecker Cove. The proposed development includes off-road parking, a picnic table and at least one tent site, with a path to the beach. This development is proposed in Alternatives 2, 4, 5, and 6. It would be near the loop road proposed in Alternatives 2 and 6.

Woodpecker Cove Demonstration Area Trail and Picnic Sites

A recreation project is proposed to enhance the recreation opportunities in the area by clearing the alder from the path and picnic sites. In addition, the project would open up more of Road 6287 to foot or bicycle traffic by clearing alder beyond the existing path. Alternatives 2 and 4 propose to clear an additional $\frac{3}{4}$ mile of Road 6287, starting at the end of the existing path. A third picnic table would be placed at a viewpoint overlooking Sumner Strait. Alternatives 5 and 6 propose to clear the path to the end of the road (about one mile beyond the existing path) and set up a fourth picnic table at a viewpoint at the end of the road.

Dispersed Picnic/Camp Sites at Wolf Track Lake

Two dispersed campsites are proposed at landings in a previously harvested unit south of Wolf Track Lake. These two landings are located at the end of a temporary road that is currently closed at its junction with Road 6286. It is about a $\frac{1}{4}$ -mile walk from the road closure to the sites. The western site shows evidence of recent use, with a makeshift tarp shelter. Both sites have views to the south across Sumner Strait. Alternatives 2, 4, 5 and 6 propose ground clearing and leveling to

¹ Maps and descriptions of proposed recreation enhancements are located in Appendix B, Recreation Cards.

accommodate a picnic table and tent area at each site. Alternatives 5 and 6 would also construct tent pads at each site.

Picnic Site and Access Trail along Road 40003

A dispersed picnic/camp site is proposed in a small muskeg meadow on the west side of Road 40003. The site offers views to the west and southwest toward the southern end of Wrangell Narrows. The proposal includes a short access trail through the muskeg or through forest on the edge of the muskeg. A platform with picnic table is proposed in Alternatives 2 and 4. In Alternatives 5 and 6, an area big enough for a tent would also be developed, either on the picnic platform or a short distance away in the trees. Any necessary Corps of Engineers permits would be obtained before construction begins.

Dispersed Picnic/Camp Site along Road 6281

A landing near Road 6281 shows evidence of use as a temporary campsite. The site is about ½ mile west of the junction of Roads 6281 and 6245. It has views to the south and west toward South Blind Slough. The proposed project would include cleanup of the area, including logging slash, to provide room for a picnic table and tent pad. This project is proposed in Alternatives 2, 4, 5, and 6.

Roads and Access

The type and extent of access into an area is important to recreationists and determines the activities associated with an area. Recreation areas may be accessed by roads, trails, or waterways. Access by saltwater or trail is not expected to be affected by any of the action alternatives. Access to areas along the beach fringe will not change.

The ID team has developed proposed road management objectives that keep motorized access near the current level. Most newly constructed classified² roads would be closed and put in storage. All new temporary roads would be decommissioned³ after timber harvest is complete in all action alternatives. Alternatives 2 and 6 would add a new loop road connection (0.8 miles of new road construction) between the present end of Road 6282 and Milepost 11 on the Woodpecker Road. Alternatives 2, 5, and 6 would add approximately one mile of new classified road in the West Sumner Creek drainage. This road would remain open after timber harvest. Alternative 3 would limit the amount of new road construction

² A road wholly or partially within or adjacent to National Forest System lands that is determined to be needed for long-term motor vehicle access, including state roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service.

³ Decommissioning is defined as stabilization and restoration of unneeded roads to a more natural state.

and concentrate timber harvest around the existing roads. Alternative 4 would limit the amount of new road construction with a combination of timber harvest near existing roads and helicopter harvest within 1.5 miles of existing roads.

Approximately 10 miles of existing classified roads within the Woodpecker Project Area are presently inaccessible to most motorized traffic due to alder growth on the roadway. These roads (6280, 6281, 6283, 6284, and 40083) receive occasional use during hunting seasons by ATVs and adventurous four-wheel-drive users. In all action alternatives, these roads would be placed in storage after harvest by removing their drainage structures (see the Road Cards in Appendix B for more information). Because motorized use of these roads is occasional, these closures should have little adverse effect on access by recreationists. Access by foot will remain unchanged on these roads.

Some people drive the roads in the Woodpecker Project Area for sightseeing and other activities like picnicking or berry picking. This type of activity is currently limited by the condition of the roads, the distance from town, the absence of a driving loop like the Three Lakes Loop Road, and the shortage of destinations such as trails or picnic tables at viewpoints.

Proposed Loop Road

Many people expressed their desire for more loop road opportunities on Mitkof Island during the Mitkof Island Landscape Design process. Alternatives 2 and 6 propose to construct a new loop road, which would connect Road 6282 to the Woodpecker Road (Road 6245) at Milepost 11. To complete a loop road, about $\frac{3}{4}$ mile of new road would need to be built. A portion of this road would be constructed in conjunction with harvest units 121, 122, and 122a proposed in Alternatives 2 and 6.

New and Improved Turnouts along the Woodpecker Road

The Woodpecker Road (Road 6245) currently has turnouts, which are designed to allow converging vehicles to pass safely on the single lane logging roads. This project proposes to build more turnouts in the area and enlarge some of the existing turnouts to provide safe parking along the road. Each turnout would be designed to accommodate one or two cars. The idea is to locate these turnouts in areas where people could easily access recreation opportunities like hunting, fishing, berry-picking or scenic vistas. These turnouts are proposed in Alternatives 2, 4, 5, and 6. See Appendix B, Recreation Cards, for proposed locations of these turnouts.

Snake Ridge Road (Road 40006) and Picnic Area

The Snake Ridge Road is one of the few roads on Mitkof Island that accesses higher elevations and provides panoramic views. The picnic area at the end of the road has been designated as a Visual Priority Travel Route and Use Area in the Forest Plan. This road provides access to

3 Recreation

Crystal Mountain. Crystal Mountain is used for hiking, cross-country skiing and snowboarding. This road is currently a steep, winding road with a rough surface. It is suitable for travel by high-clearance vehicles only. The proposed Road Management Objective for this road is to maintain it for passenger vehicles. This would enhance the recreational values of this road, which include scenery, access to alpine areas, and opportunities for dispersed recreation activities like picnicking.

Scenery

Southeast Alaska's attractive natural setting is one factor that contributes to the region's recreational values. The importance of this aesthetic value is evident in increasing tourism and in Alaska residents' concern for scenic quality.

Areas most often used for recreation by the greatest number of people were identified in Appendix F of the Forest Plan as Visual Priority Travel Routes and Use Areas. The scenic values of these areas are to be maintained through land use designations and application of standards and guidelines.

Visual Quality Objectives

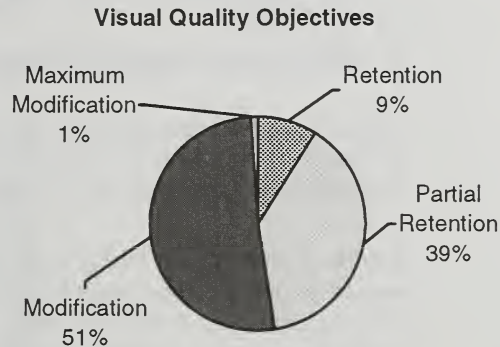
Scenic quality, sensitivity levels of the landscape, and management goals are combined to establish Visual Quality Objectives (VQOs). Visual Quality Objectives refer to the degree of acceptable alterations of the landscape. Together with other resource-related goals, objectives, and land use designations, these VQOs help govern the location, design, scheduling, and level of management activities such as timber harvest to achieve or maintain the Desired Future Condition.

Adopted VQOs are a set of measurable goals for the management of visual resources within the Forest. They are based on a variety of physical and social considerations and describe different degrees of acceptable alteration to the natural landscape. Adopted VQOs are the Forest Plan management direction as described below and displayed in Figure 3-4.

- **Retention:** Changes in the landscape must not be evident to the casual forest observer. Modifications must repeat form, line, color, and texture found in the surrounding natural landscape.
- **Partial Retention:** Changes in the landscape may be evident, but are subordinate to the surrounding natural landscape. Activities may introduce form, line, color, and texture not common in the surrounding natural landscape, but they should not attract attention.

- **Modification:** Changes in the landscape may dominate the surrounding natural landscape; however they must repeat the naturally established elements of form, line, color, and texture to appear compatible with the surrounding natural landscape.
- **Maximum modification:** Management activities may dominate the surrounding natural landscape, yet when viewed in the background, activities appear as natural occurrences within the landscape.

Figure 3-4. Adopted Visual Quality Objectives on National Forest System Lands in the Woodpecker Project Area



Visual Quality Objective	Acres	Percent of Project Area
Retention	2,560	9%
Partial Retention	10,950	39%
Modification	14,600	51%
Maximum Modification	330	1%
Total	28,440	100%

Visual Priority Travel Routes and Use Areas

The Visual Priority Travel Routes and Use Areas listed in the Forest Plan identify viewing locations from which scenic impacts are assessed. Areas visible from Visual Priority Travel Routes and Use Areas are called "seen." These areas are displayed in Figure 3-5.

3 Recreation

The Forest Plan Appendix F identified the following areas in or adjacent to the Woodpecker Project Area as Visual Priority Routes and Use Areas:

- Alaska Marine Highway – Wrangell Narrows and Sumner Strait
- Tour Ship Routes – Wrangell Narrows and Sumner Strait between Wrangell and Cape Decision
- Public Use Roads – Mitkof Highway
- Saltwater Use Areas – Blind Slough
- Dispersed Recreation Areas – Crystal Lake and Crystal Mountain
- Developed Recreation Site – Snake Ridge Picnic Area adjacent to Road 40006
- Hiking Trails – Blind River Rapids Trail (#454)

None of the activities proposed for the Woodpecker Project Area would be visible from the Mitkof Highway, the Snake Ridge Picnic Area, the Blind River Rapids Trail, or the north part of Blind Slough.

Harvest that would be visible from Visual Priority Routes and Use Areas would be designed and implemented to meet the VQOs. This would be accomplished by: 1) leaving trees within the harvest units, 2) designing the unit boundaries to blend with the landscape, and 3) using two-aged or uneven-aged management.

There will be no harvest units in the foreground (less than ¼ mile away from the observer) of any Visual Priority Route and Use Area. Leaving trees within the harvest units will mitigate the effects on scenery from timber harvest within the middleground (from ¼ mile to 3-5 miles away from the observer) and background (greater than 3-5 miles away from the observer). Harvest units within the middleground and background will have less impact than previously harvested units since a percentage of trees will be left. All Adopted VQOs as described by the Forest Plan for the land use designation will be achieved for all alternatives.

Kupreanof Island

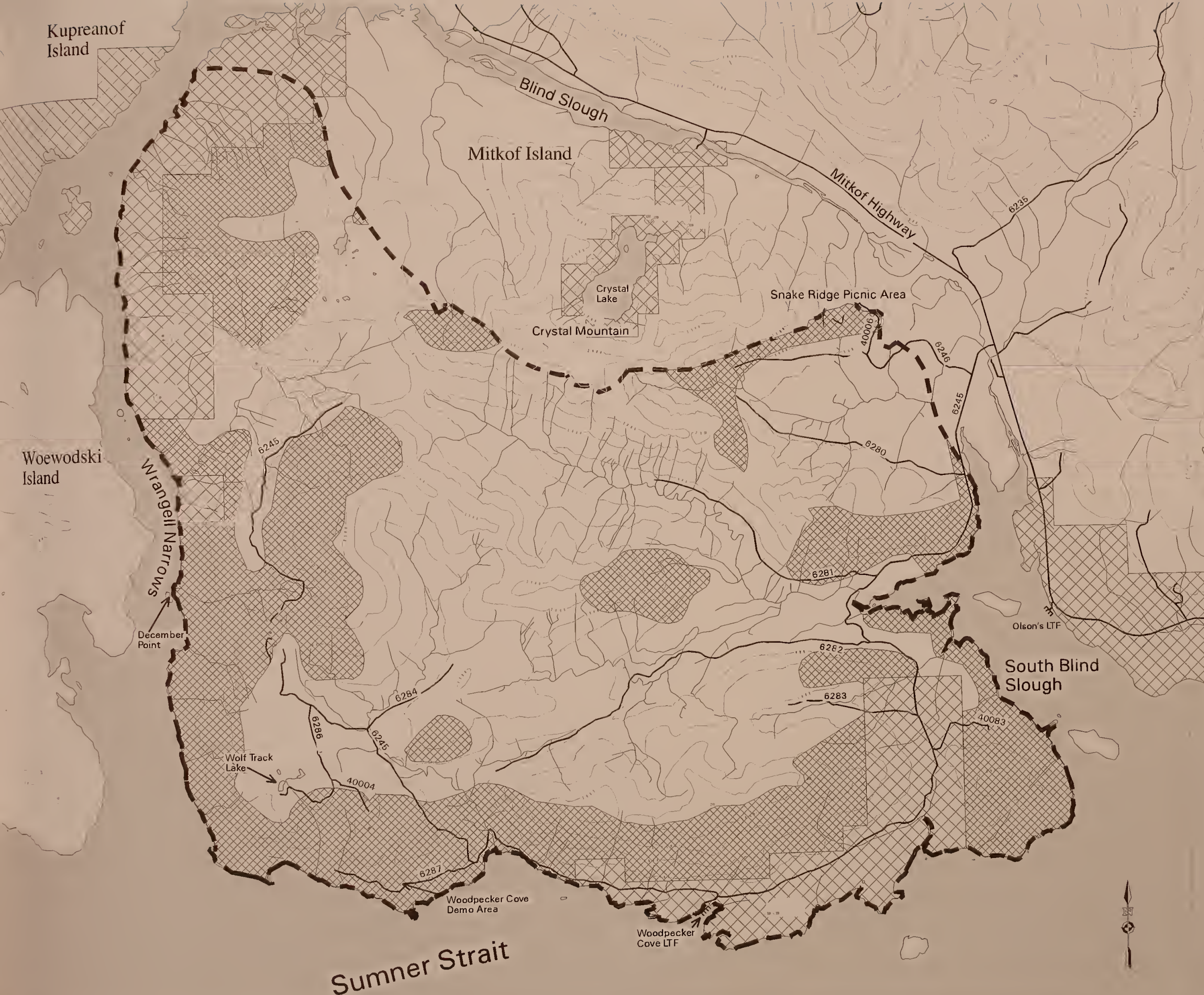
Woodpecker Project Area

Figure 3-5

Areas Seen from Visual Priority
Travel Routes and Use Areas

LEGEND

- Areas Seen
- Non-National Forest System Lands
- Lakes/Saltwater
- Woodpecker Project Area Boundary
- Roads
- Streams
- 500ft Contours



Chapter 3-37



Scale is 1 inch = 5280 feet



Viewshed Descriptions

Most of the area seen from Wrangell Narrows, Sumner Strait, South Blind Slough and Crystal Mountain is within the Scenic Viewshed LUD. In these areas, forest visitors using identified popular travel routes and use areas will view a natural-appearing landscape. Areas screened or not visible from Visual Priority Travel Routes and Use areas may be heavily modified. Within these viewsheds, timber harvest units are typically small and affect only a small percentage of the seen area. At any given time, roads, facilities, and other structures are either not visually evident or subordinate to the characteristic landscape.

Wrangell Narrows Viewshed

The shoreline areas along the entire western boundary of the Woodpecker Project Area are visible in the foreground and/or middleground distance zone (up to 3-5 miles away from the observer) from the Alaska Marine Highway route, cruise ship/tour boat route, and saltwater use areas along this waterway. Also visible in the middleground and/or background distance zone are the smaller ridges which face west.

Most of the foreground is within the Wrangell Narrows Small Old-growth Habitat Reserve. No harvest on National Forest System lands will occur in this area since timber is not available for harvest in the Old-growth Habitat LUD. About 130 acres of privately owned land were clearcut in 1975 within the foreground. The clearcut area has revegetated with alder on the roads and conifers within the unit.

Sumner Strait Viewshed

Views from Sumner Strait are more expansive than views from the Wrangell Narrows, but they are less dramatic. Views of islands and coves along the south end of Mitkof Island are typical of the Southeast Alaska coastline. Past clearcut harvesting in what is now the Woodpecker Cove (tree thinning) Demonstration Area and on state land is very evident. These stands have regenerated and will continue to blend with the landscape as they grow.

The existing Woodpecker Cove log transfer facility is located on Sumner Strait within the Woodpecker Project Area on 3.5 acres of National Forest System land that is surrounded by state land. It consists of a low bulkhead and dirt ramp suitable for small barges. Since it is within Woodpecker Cove, it is not readily visible from Sumner Strait. The foreground to the east of the log transfer facility is within the Woodpecker Cove Small Old-growth Habitat Reserve. No harvest will occur in this area in any alternative since timber is not available for harvest in the Old-growth Habitat LUD.

South Blind Slough Viewshed

Views of islands and coves along the south end of Mitkof Island are typical of Southeast Alaska's coastlines. Past harvesting along the Woodpecker Road is evident. The island in the middle of South Blind Slough effectively blocks the view of Olsen's Landing from most of the Woodpecker Project Area. Olsen's Landing is a log transfer facility used as a dispersed camping site and one of the original potential ferry terminal sites. This site has since been determined unsuitable for the South Mitkof Ferry Terminal.

The existing log transfer facility at Olsen's Landing is located on South Blind Slough outside the Woodpecker Project Area on state land. It consists of a low bulkhead and a dirt ramp suitable for small barges. It is visible from within South Blind Slough.

Crystal Mountain Viewshed

Crystal Mountain, elevation 3,317 feet, is on the northern boundary of the Woodpecker Project Area. Because the mountaintop is alpine habitat, 360-degree views are possible on clear days. Past harvest and road building have modified the scenery in most directions, including the project area to the south. Roads within the project area (Roads 6246 and 40006) now provide access to the undeveloped trail that leads to the top of the mountain.

Direct Effects

The existing recreational use of the Woodpecker Project Area by residents, tourists, and outfitter/guides for hunting, sport fishing, berry picking, and viewing is expected to be minimal for all alternatives. All changes to Recreation Opportunity Spectrum classes that would occur with any of the alternatives are consistent with Forest Plan guidelines. Opportunities for roaded and unroaded recreation activities in the Woodpecker Project Area would still remain after implementation of any of the alternatives.

All of the proposed harvest units and roads were designed to either meet or exceed the Adopted Visual Quality Objectives for the land use designation. The Visual Priority Travel Routes and Use Areas were given consideration during the proposed timber harvest unit design and development of the harvest prescriptions.

Alternative 1

Alternative 1 would not affect the Recreation Opportunity Spectrum classes or Recreation Places in the Woodpecker Project Area. No effect would occur to the existing recreational use of the Woodpecker Project

Area by residents, tourists, and outfitter/guides for hunting, sport fishing, berry picking, or viewing. No additional dispersed recreation sites or roadside turnouts would be developed in the area.

Alternative 1 would have no effect on scenery in the Woodpecker Project Area. The appearance of the landscape from Sumner Strait, South Blind Slough, and Crystal Mountain would remain that of a modified landscape due to past harvest. The appearance from the Wrangell Narrows would be of a naturally occurring landscape with the exception of the harvest unit on private land.

Alternative 2

Alternative 2 would change 1,270 acres from a Semi-primitive Recreation Opportunity Spectrum (ROS) class to a Roaded ROS class. It would add about 1 $\frac{3}{4}$ mile of open road to the Mitkof Island road system. Road 40822 would extend north of Road 6282 for one mile. Road 6282 would be extended about $\frac{3}{4}$ mile to connect with Road 6245, the Woodpecker Road.

One of the effects to Recreation Places would be noise from logging operations for short durations. Another effect on the Road 6245 Recreation Place would be increased traffic during timber harvest operations. Recreation Sites, the anchorage at December Point, and Woodpecker Cove may also be subject to noise from logging operations for short durations. Recreation users of the anchorage at Woodpecker Cove may be displaced during the use of the Woodpecker Cove Log Transfer Facility.

There may be increased traffic in the area during logging operations at some points in time, and some side roads may be closed to the public during operations. The proposed extension of Road 6282 would create a new loop road for recreational driving. Road 40006 would be upgraded for passenger vehicle use.

Several dispersed recreation sites are proposed for this alternative. These include dispersed camping sites at Wolf Track Lake and along Roads 6245 and 6281. A picnic site with short access trail overlooking the Wrangell Narrows is proposed near Road 40003. The Woodpecker Cove Demonstration Area and picnic site would be improved. Several turnouts along the beginning of the Woodpecker Road would be enlarged or added. These developments would result in new dispersed recreation opportunities and safe parking areas for access to undeveloped areas in the Woodpecker Project Area.

Alternative 2 would have the most effect on the landscape seen from Sumner Strait with some partial harvest units and the proposed loop road in the middleground. The effect on the scenery as viewed from the Wrangell Narrows would be negligible. The South Blind Slough Viewshed would be slightly affected by the proposed units and the end of Road 40822. Some of the proposed units and proposed Road 40821 may be visible in the background from Crystal Mountain.

Alternative 3

Alternative 3 would change 260 acres from a Semi-primitive ROS class to a Roaded ROS class, the smallest change of any action alternative. No new roads would be added to the Mitkof Island road system. Road 40006 would be upgraded for passenger vehicle use.

One of the effects to Recreation Places would be noise from logging operations for short durations. Another effect on the Road 6245 Recreation Place would be increased traffic during timber harvest operations. Recreation Sites, the anchorage at December Point, and Woodpecker Cove may also be subject to noise from logging operations for short durations. Recreation users of the anchorage at Woodpecker Cove may be displaced during the use of the Woodpecker Cove Log Transfer Facility.

Alternative 3 proposes no new recreation sites or turnouts for parking and would provide no new dispersed recreation opportunities and no new parking areas for access to undeveloped areas in the Woodpecker Project Area.

Alternative 3 would have the least effect on scenery of all action alternatives. There would be no effect on the Sumner Strait Viewshed and minor effects on the Wrangell Narrows, South Blind Slough, and Crystal Mountain Viewsheds.

Alternative 4

Alternative 4 would change 2,280 acres from a Semi-primitive ROS class to a Roaded ROS class. No new roads would be added to the Mitkof Island road system.

One of the effects to Recreation Places would be noise from logging operations for short durations. Another effect on the Road 6245 Recreation Place would be increased traffic during timber harvest operations. Recreation Sites, the anchorage at December Point, and Woodpecker Cove may also be subject to noise from logging operations for short durations. Recreation users of the anchorage at Woodpecker

Cove may be displaced during the use of the Woodpecker Cove Log Transfer Facility.

Traffic may increase in the area during logging operations at some points in time, and some side roads may be closed to the public during operations. Road 40006 would be upgraded for passenger vehicle use.

Several dispersed recreation sites are proposed for this alternative. These include dispersed camping sites at Wolf Track Lake and along Roads 6245 and 6281. A picnic site with short access trail overlooking the Wrangell Narrows is proposed along Road 40003. The Woodpecker Cove Demonstration Area and picnic site would be improved. Several turnouts along the beginning of the Woodpecker Road would be enlarged or added. These developments would result in new dispersed recreation opportunities and safe parking areas for access to undeveloped areas in the Woodpecker Project Area.

Alternative 4, although it harvests more timber than Alternative 2, would have less effect on scenery since much of the timber would be helicopter logged and higher percentages of the trees would be retained. Helicopter logging is more flexible than cable logging in leaving groups of trees and unmerchantable trees. More units are within the middleground and background from Wrangell Narrows, South Blind Slough, and Crystal Mountain but the percentage of remaining trees will be higher and more dispersed. No harvest units would be visible from Sumner Strait.

Alternative 5

Alternative 5 would change 2,230 acres from a Semi-primitive ROS class to a Roaded ROS class. It would add about one mile of open road (Road 40822) to the Mitkof Island road system.

There may be increased traffic in the area during logging operations at some points in time, and some side roads may be closed to the public during operations. Road 40006 would be upgraded for passenger vehicle use.

Several dispersed recreation sites are proposed for this alternative. These include dispersed camping sites at Wolf Track Lake and along Roads 6245 and 6281. A picnic site and short access trail overlooking the Wrangell Narrows is proposed along Road 40003. The Woodpecker Cove Demonstration Area and picnic site would be improved. Several turnouts along the beginning of the Woodpecker Road would be enlarged or added. These developments would result in new dispersed recreation opportunities and safe parking areas for access to undeveloped areas. Alternative 5 would have the most effect on scenery of all the

3 Recreation

alternatives, except for the Sumner Strait Viewshed. More of the units within the viewing distances from Wrangell Narrows, South Blind Slough, and Crystal Mountain would have fewer trees retained than the other alternatives. No harvest units would be visible from Sumner Strait.

Alternative 6

The effects to Recreation in this alternative would be similar to those of Alternative 2. Alternative 6 would change 1,365 acres from a Semi-primitive ROS class to a Roaded ROS class. It would add about 1 ¾ mile of open road to the Mitkof Island road system. Road 40822 would extend north of Road 6282 for 1 mile. Road 6282 would be extended about ¾ mile to connect with Road 6245, the Woodpecker Road.

There may be increased traffic in the area during logging operations, and some spur roads may be closed to the public during operations. The proposed extension of Road 6282 would create a new loop road for recreational driving. Road 40006 would be upgraded for passenger vehicle use.

Several dispersed recreation sites are proposed for this alternative and would be the same as those proposed in Alternative 5. These include dispersed camping sites at Wolf Track Lake and along Roads 6245 and 6281. A picnic site and short access trail overlooking the Wrangell Narrows is proposed along Road 40003. The Woodpecker Cove Demonstration Area and picnic site would be improved. Several turnouts along the beginning of the Woodpecker Road would be enlarged or added. These developments would result in new dispersed recreation opportunities and safe parking areas for access to undeveloped areas in the Woodpecker Project Area.

Alternative 6 would have less effect than Alternative 2 but more than the other alternatives for the Sumner Strait Viewshed. The effect on the Wrangell Narrows and the South Blind Slough Viewsheds would be slight, and the same as Alternative 2. It would have more effect on the Crystal Mountain Viewshed than Alternatives 2, 3, and 4 but less than Alternative 5. Some of the proposed units and proposed road 40821 may be visible in the background from Crystal Mountain, but due to the retention in trees within the units, they should not be obvious.

Cumulative Effects

The state land in the southern part of the Woodpecker Project Area is to be managed for multiple uses, including dispersed recreation, habitat, and current and future forest values (Alaska Department of Natural Resources Central/Southern Southeast Area Plan, November 2000). Development will not be permitted between Road 6245 and the shoreline except for access or public use facilities. Recreation and scenic values will be

considered in management practices. If any development activity is authorized, access to and along the beachfront, particularly to Woodpecker Cove, will be maintained along Road 6245 for recreation purposes.

The Alaska Department of Transportation and Public Facilities (ADOTPF) proposes to build a new ferry terminal on the south end of Mitkof Island, as described in the March 1999 Southeast Alaska Transportation Plan. Environmental analysis for that project has begun; however the preferred new ferry terminal sites are on State of Alaska land along the Mitkof Highway, outside the Woodpecker Project Area.

The ADOTPF worked with a private contractor to conduct the Petersburg Transportation Impact Study, which was published in July 2000. The purpose of this study was to determine the likely socioeconomic impacts from implementation of the March 1999 Plan on the Petersburg community and Mitkof Island. The study projected that there would be an estimated 20 to 40 percent increase in summer visits to roaded recreation areas along Mitkof Highway and in the City of Petersburg. It also stated that this impact would mainly be restricted to areas near a road, as many ferry travelers will not have the means or desire to spend time or money on more remote or dispersed recreation experiences.

This increased use may be concentrated around the Mitkof Highway corridor, but some increase in visitors may be seen in the Woodpecker Project Area. There could be a higher demand for visitor amenities like campsites, picnic areas, hiking trails, and vehicle parking in the Woodpecker Project Area.

During the Mitkof Island Road Analysis, contact with ADOTPF was maintained, and the potential effects of the increased traffic that would result from the new ferry terminal were considered. Road use will be monitored with traffic counters both prior to and after the new ferry terminal is constructed to determine if traffic patterns have changed. Any change in visitor patterns may necessitate a review of the recreation strategy recommended in the Mitkof Landscape Design, which emphasized recreation developments closer to Petersburg.

The cumulative effects to scenery include past, present, and reasonably foreseeable future timber harvest, road building, and log transfer facilities. The greatest impact will be from the past clearcutting that occurred between the 1960s and 1990s. The scenic condition of the landscape within the Woodpecker Project Area will continue to improve over time as managed stands from previous clearcutting mature. Present timber harvest, roads, and other developments must meet the goals and

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objectives of the Forest Plan. These goals and objectives include the maintenance of scenic quality where viewed from Visual Priority Travel Routes and Use Areas.

In order to meet the adopted Visual Quality Objectives, the size of clearcuts is limited, partial harvest methods are used, and roads, rock pits, and log transfer sites are screened by vegetation or landscape as guided by the Forest Plan. The proposed action or the alternatives to the proposed action will meet or exceed the Visual Quality Objectives.

No further timber harvest other than this project is currently planned in the Woodpecker Project Area on the Tongass National Forest ten-year timber sale schedule. If any subsequent timber harvest is planned during the life of the Forest Plan, it will meet the same Scenery Standards and Guidelines as this proposed harvest. Long-term effects over the 200-year rotation will meet the desired future condition of a mosaic of timber stands of varying ages with a percentage remaining in old-growth forest at all times.

Issue 3 – Economics

Nearly 80 percent of Southeast Alaska is within the Tongass National Forest. This area stretches roughly 500 miles between Ketchikan in the south to Yakutat in the northwest, and is mainly unpopulated. Approximately 73,000 people live in 33 cities, towns and villages scattered throughout the 17 million acre region. Petersburg is about 120 miles north of Ketchikan and has about 3,500 residents.

The economies of most communities in Southeast Alaska depend on the resources of the Tongass National Forest and the surrounding waters for uses such as commercial fishing, tourism, recreation, logging, mining and subsistence. There is very little private land available to provide the resources necessary to sustain these activities. Consequently, maintaining the abundant natural resources found on National Forest System lands concerns those who live and work in Southeast Alaska.

Many Southeast Alaskans want to preserve their local environment while maintaining their economic livelihood. The balancing of these sometimes conflicting needs is becoming increasingly more difficult. The Forest Plan seeks to balance these concerns.

The Forest Plan FEIS included a comprehensive analysis of the economic and social environment of Southeast Alaska, the Tongass National Forest, and the communities within Southeast Alaska. The scope of the economic and social analysis needs to be broader than the Woodpecker Project Area since livelihoods depend on a broader base of resources. The effects on commercial enterprises are briefly discussed in a local context, however this analysis has been done in more detail at the Forest Plan level. The socioeconomic information found in Chapter 3, Part 2 of the Forest Plan FEIS and Appendix H is incorporated here by reference.

The discussion of economics for the Woodpecker Project Area is based on the use of the Forest Service timber appraisal system to compare the relative value of the alternatives. Since all action alternatives propose to offer timber in many sales over a period of several years, during which timber values are likely to fluctuate, this comparison can only be used for relative values rather than for exact monetary values.

Timber Supply and Market Demand

The amount of timber available for harvest is determined by site capability and management direction. An area of forest is considered suitable for timber harvest if it is capable of producing 8,000 board feet per acre of commercial timber species on stable soils that will regenerate

commercial timber species in five years and if it is within a land use designation that allows timber harvest. The land use designations that currently allow timber harvest are Timber Production, Modified Landscape, and Scenic Viewshed. Approximately 8,000 acres, or about 83 percent of the suitable forest lands in the Woodpecker Project Area have not been harvested. This equates to about 212 million board feet (mmbf). About 93 million board feet on approximately 2,930 acres have been harvested in the past within the Woodpecker Project Area, including what is now state land. Only about one-half (1,660) of these previously harvested acres are currently classified as suitable for timber production. The remaining 1,240 acres includes National Forest System lands that are not available for timber harvest due to Forest Plan land use designations, or lands that have been transferred to the State of Alaska.

Detailed explanations of the rationale for considering timber harvest in the Woodpecker Project Area and market demand for wood products is located in Appendix A of this document. More information can also be found in the Forest Plan FEIS, Part 1 (pages 3-248 to 3-307).

ASQ and Non-Interchangeable Components (NICs)

The allowable sale quantity (ASQ) is the amount of timber that can be sold from lands suitable for timber production by decade for a National Forest. This allowable sale quantity is classified into two categories that cannot be interchanged. These are referred to as non-interchangeable components, or NIC.

The purpose of dividing the timber volume is to:

- maintain economic sustainability by preventing over-harvest of the most economically operable ground, and
- identify that portion of the timber supply that might not be harvested because of marginally economic conditions.

NIC I (normal operability) refers to timber volume on land that can be accessed by existing logging systems from either existing or proposed transportation systems, including helicopter logging up to $\frac{3}{4}$ mile away from a road. NIC II refers to timber volume on land that is difficult to access, or isolated stands usually accessed by helicopter turns of more than $\frac{3}{4}$ mile. Logging on NIC II lands is currently considered economically marginal. The Forest Plan requires the two NIC volumes to be kept separate for planning and accounting purposes on a Tongass National Forest level, and anticipates that 80 percent of the ASQ will come from NIC I land and 20 percent from NIC II.

The Woodpecker Project Area contains both NIC I and NIC II lands. These components can vary by alternative depending on the long-range transportation system. For example, some units that are proposed for helicopter logging in Alternative 4 could be roaded by Roads 40821 and 40822, which are proposed in Alternatives 2, 5, and 6. If the infrastructure were not built in this entry, subsequent entries would involve more NIC II.

There would be no NIC II volume offered in Alternatives 2, 3, or 6. Alternative 4 would harvest volume from the NIC II category in units 85, 85a, 87, 88, 88b, 90a, 90d and 90e. Alternative 5 would have NIC II volume within Unit 85 and part of Unit 90a. The proposed road access in Alternative 5 accounts for the smaller amount of NIC II volume.

Financial Efficiency

One way to compare the effects of the different alternatives is to conduct a financial efficiency analysis. Financial efficiency is a comparison of those costs and benefits that can be quantified in terms of actual dollars spent or received within the project area. When considering quantitative issues, financial efficiency analysis offers a consistent measure in dollars for comparison of alternatives. This type of analysis does not account for non-market benefits, opportunity costs, individual values, or other values, benefits, and costs that are not easily quantifiable, such as recreation. This is not to imply that such values are not significant or important, but to recognize that non-market values are difficult to represent by appropriate dollar figures. Therefore, financial efficiency should not be viewed as a complete answer but as one tool that decision makers use to gain information about resources, alternatives, and trade-offs between costs and benefits. A discussion of non-market benefits, values and costs can be found in the Economic Analysis section.

Although individual timber harvest units may or may not be economical to harvest by themselves, the management of less productive land, or land containing a high percentage of defective timber, will help to increase future timber yields. The harvest of units with higher returns will help compensate for those units that are less economical.

Volume Estimates

The volume in each alternative includes estimates for sawlog and utility volume that would be produced (Table 3-6). These volumes are based on stand exam field information and geographic information system (GIS) data. In order to compare alternatives, the appraisal was done using the total volume for each alternative. Because all of the alternatives are proposed to be offered in multiple sales, the actual value for each sale will be different, depending on the amount of volume, road costs, logging system used, and the market conditions at the time of the sale.

The Transaction Evidence Appraisal (TEA) system used for this analysis uses hundred cubic feet (ccf) as a measure instead of thousand board feet (mbf). National Forest timber is now appraised and sold by cubic feet to reflect that wood products other than lumber are produced. Thousand board feet is also displayed in this document since it is the traditional unit of measure used for planning purposes.

The conversion ratio between board feet and cubic feet depends on the amount of taper in a log. Taper is the difference between the smallest diameter and the largest diameter of the log. Ratios for converting board feet to cubic feet are determined by the cruise and will vary by species and location. On the Tongass National Forest, the board foot to cubic foot ratio varies between about four to six board feet per cubic foot. Table 3-7 displays the timber species composition in the Woodpecker Project Area.

Table 3-6. Estimated Volumes of the Woodpecker Project Area Alternatives

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Total volume (mbf)	0	12,300	5,700	16,800	26,800	16,300
Total volume (ccf)	0	25,200	11,600	34,200	54,700	30,870

Table 3-7. Timber Species Composition in the Woodpecker Project Area

Species	Percent
Western Hemlock	52%
Sitka Spruce	24%
Mountain Hemlock	10%
Alaska Yellow-cedar	14%
Western Redcedar	trace

Net Stumpage Values

The Transaction Evidence Appraisal process calculates net stumpage values from previous timber sales that were sold during an identified base period. The predicted stumpage values for any given sale are based on the average of these previously sold sales, with adjustments for sale-specific data. Logging costs (stump-to-truck costs) vary by quality and quantity of timber per acre. Logging costs include timber falling,

bucking, yarding, sorting, and loading. Haul cost is figured to the nearest production site for all materials, sawlogs and utility wood. All alternatives were appraised assuming haul to the same production site. Road costs include the construction, reconstruction, and maintenance of classified roads.

The difference in net stumpage values between the action alternatives (Table 3-12) can be attributed to multiple factors including:

- differences in species composition, volume harvested, timber quality, and harvest prescriptions (Tables 3-6, 3-7 and 3-8),
- differences in the logging systems, such as helicopter yarding (Table 3-9), and
- the type and amount of road construction (Table 3-45).

Harvest Prescriptions

In general, the more volume per acre removed from a stand, the lower the per-unit logging cost. Table 3-8 displays the harvest prescription acres for each alternative.

Logging Systems

Three different types of logging systems are proposed in the Woodpecker Project Area. Harvest acres by yarding system are shown in Table 3-9. Proposed yarding methods for individual units are noted on the Unit Cards (Appendix B).

Table 3-8. Comparison of Harvest Prescription Acres by Alternative

Alt.	Unit Acres				
	Even-aged/Two-aged Management (0-30% of trees retained)		Uneven-aged Management (50-75% of the trees retained)		Total Unit Acres
	Acres	Percent of Total Unit Acres	Acres	Percent of Total Unit Acres	
2	220 acres	19 %	920 acres	81 %	1,140 acres
3	160 acres	32 %	340 acres	68 %	500 acres
4	120 acres	6 %	1,730 acres	94 %	1,850 acres
5	1,000 acres	58 %	730 acres	42 %	1,730 acres
6	240 acres	18 %	1,060 acres	82 %	1,300 acres

Table 3-9. Proposed Logging System Acreage

Yarding Method		Acres				
		Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Cable		990	350	310	640	750
Shovel		150	150	150	150	150
Helicopter	NIC I	0	0	840	840	400
	NIC II	0	0	550	100	0
Total Acres		1,140	500	1,850	1,730	1,300

Cable Yarding

Cable yarding systems are best suited for steep slopes and wet soils. Cable systems minimize soil disturbance by partially or fully suspending the logs over the ground. Harvest prescriptions are more limited with cable systems compared to the other systems because a clear path is needed to convey the logs to the landing.

Cable yarding is most efficient with clearcut systems. Partial harvest is possible, but the tower for the cable system needs to be moved more often, which increases costs. Downhill yarding needs to be in corridors, since there is less control of the logs as they approach the landings. Uphill yarding gives more flexibility, especially if a lateral carriage is used to bring the logs from the sides to the middle of the corridor. Extra care is needed to protect the remaining trees in a partial harvest.

Alternative 2 proposes the most cable logging, followed in descending order by Alternative 6, Alternative 5, Alternative 3 and Alternative 4.

Shovel Yarding

Track mounted log loaders (shovels) have been used throughout the Tongass National Forest where the slope is generally less than 20 percent. Placing slash underneath the tracks as the loader moves through the unit provides a mat to displace the weight of the equipment over a larger surface area, which minimizes the possibility of soil compaction. Shovel yarding is limited to roadsides. The average yarding distance on each side of the road has been 300 feet. Recently, however, distances of up to 900 feet have been shovel yarded. In many units, shovel yarding is used for the timber near the road and the rest of the unit is cable logged. Shovel logging does provide flexibility in the selection

of trees to be harvested. All of the action alternatives propose equal amounts of shovel yarding.

Helicopter Yarding

Helicopter yarding is one of the more costly logging systems due to the high operating and helicopter maintenance costs. However, helicopter yarding does provide land managers with options not available with other land-based yarding systems and can result in less ground disturbance than traditional ground-based systems. For example, helicopter yarding reduces the need for additional classified and temporary road construction within a project area since volume can be flown to existing roads. Unit ground disturbance is minimized since logs are lifted, rather than dragged along the ground, to the landing as with cable systems. Other advantages include the ability to implement more complex silvicultural prescriptions such as patch cuts and individual tree selection, which may not be feasible with cable and shovel systems.

Helicopter yarding is most sensitive to the variables that influence the economic viability of logging systems. Alternative design plays an important role in the overall economics of those alternatives containing helicopter yarding. Three factors that directly impact yarding costs are turn-time, payload, and the type of helicopter used (Table 3-10). Helicopter units located closest to existing roads and harvest prescriptions that allow for maximum payloads provide better economics. Alternative 4 proposes the greatest number of units with helicopter yarding, followed by Alternative 5, and then Alternative 6. Alternatives 4, 5, and 6 include a mix of yarding systems. Alternatives 2 and 3 propose no units with helicopter logging.

Table 3-10. Helicopter Units by Average Yarding Distance

Average Yarding Distance	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
1,320 - 2,200 ft	None	None	None	109, 119a, 123	88, 90e, 109, 119a	88, 90e, 109, 119, 119a
2,200 - 4,400 ft	None	None	None	78, 80, 81, 81a, 82, 88d, 90b, 90c, 90d, 90e, 90f, 110, 117a, 117b, 117c, 117d	78, 80, 81 81a, 82,85, 87,90b, 90c, 90d, 90f, 110	110
4,400 - 6,600 ft	None	None	None	85,87,88, 88b	None	None

Road Construction/Logging Costs

These costs were determined using all of the volume for each alternative. They include all costs of moving felled timber from the harvest unit to the mill (Table 3-11). Logging costs in the TEA database are derived from Base Period Regional Average logging costs, which are adjusted quarterly from an average of all sales sold during the previous quarter. These costs are then adjusted for logging costs within each alternative, using alternative-specific information and any unusual items. Total logging costs include road maintenance, unusual adjustments, stump-to-truck costs (felling, bucking and yarding), haul, transfer, raft and tow. Individual sales may be different when the appraisal is based on cruised volume and actual costs. All haul costs were considered to be equal since the haul route is approximately the same and the same log transfer facility was used for all alternatives. This may change depending on where the purchaser plans to process the timber.

Table 3-11. Average Logging Costs and Road Costs by Alternative

Costs ¹		Alt. 1.	Alt. 2	Alt.3	Alt. 4	Alt. 5	Alt. 6
Logging Costs	\$ per ccf	0	158.51	130.26	172.15	158.83	152.45
	\$ per mbf	0	323.49	265.84	351.33	324.14	311.12
Road costs ²	\$ per ccf	0	36.55	11.17	7.29	12.78	27.78
	\$ per mbf	0	74.59	22.80	14.88	26.08	56.69

¹ The conversion of hundred cubic feet (ccf) to thousand board feet (mbf) was calculated using the Tongass National Forest all-species conversion factor of 0.49.

² Road costs include road construction, road reconstruction, and road maintenance.

Financial Efficiency Assessment of the Alternatives

An appraisal of the alternatives indicates that all action alternatives would generate positive appraised values during high market conditions. During low market conditions, only Alternative 3 would generate positive appraised values (Table 3-12 and Figure 3-6). These values should be used for alternative comparison only. Actual timber values will be determined by bids submitted at the time of the timber sales.

The projected harvest volume, costs and net stumpage values are estimates and not definitive figures. These estimates are useful for comparing the alternatives, but not for determining actual volume, cost and values. The final appraisals for any sales that will result from the implementation of the decision on this analysis will include current quarter selling values, current cost information, and a normal profit and

risk allowance to determine the minimum advertised stumpage value. Competitive bidding will determine the actual value.

Timber markets and values tend to fluctuate dramatically. Over the past several years, most sales on the Petersburg Ranger District have had multiple bidders and have been bid up above advertised rates. However, other sales across the Tongass National Forest, including on the Petersburg Ranger District, have gone unsold. Future market conditions are unknown and are not a part of this analysis. However, economic factors including market conditions will be given careful analysis in the design and scheduling of individual sale offerings from the selected alternative.

The economics of individual helicopter units if offered alone, or all helicopter units if offered as a 100 percent helicopter sale, could result in a deficit offering during low market conditions. However, the overall economics of individual units or all helicopter units together could be considerably improved if included with units containing lower-cost yarding systems and/or higher value timber. In addition, changing utilization standards and/or changing current domestic processing rules could improve the economics of individual sales and could be considered. At the time of individual sale planning, careful attention will be paid to all those factors that affect the overall sale economics. These factors will be considered to determine which unit mix represents the best sale with respect to economics while still meeting resource management objectives.

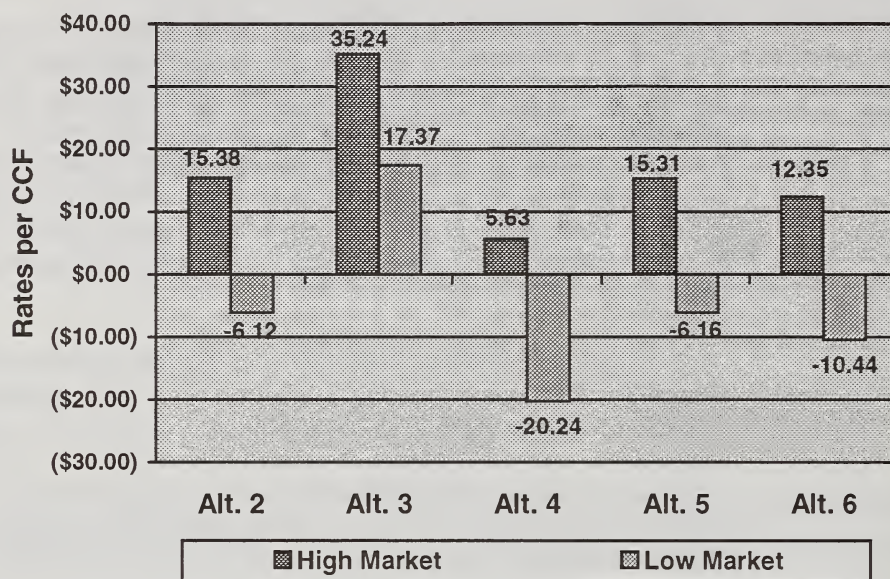
Table 3-12. Volume and Appraised Value of the Woodpecker Project Area Alternatives

		Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Total volume (mbf)		0	12,300	5,700	16,800	26,800	16,300
Total volume (ccf)		0	25,200	11,600	34,200	54,700	30,870
Appraised Value (\$/ccf)	High Market ¹	0	15.38	35.24	5.63	15.31	12.35
	Low Market	0	-6.12	17.37	-20.24	-6.16	-10.44
Appraised Value (\$/mbf)²	High Market ¹	0	31.39	71.92	11.49	31.24	25.20
	Low Market	0	-12.49	35.45	-41.31	-12.57	-21.31

¹ The high and low market values are derived from the Tongass National Forest Third Quarter 1999 Base Period Index. This index included abnormally high values for Alaska yellow-cedar and spruce, which are not expected to recur in the foreseeable future. For this reason, the Woodpecker Project Area EIS used the average values listed on the 1999 Index to represent the current high market value.

² The conversion of hundred cubic feet (ccf) to thousand board feet (mbf) was calculated using the Tongass National Forest all-species conversion factor of 0.49.

Figure 3-6. Preliminary Appraised Values by Alternative



Small Sales

Trying to maintain a consistent small sales offering is a component of the Petersburg Ranger District timber sale program. Local timber purchasers have expressed interest in small timber sales being offered on Mitkof Island. In 1998, the Petersburg City Council passed a resolution in support of small sales on Mitkof Island. A small timber sale for the purposes of this analysis is defined as having less than one million board feet of volume and requiring less than one mile of new classified⁴ road construction. Several small sales have been offered and sold to Petersburg operators during the 1990s on Mitkof Island.

Small Sales Opportunities in the Woodpecker Project Area

Some of the proposed timber harvest units within the Woodpecker Project Area were designed to address public comments and concerns about the availability and even flow of small sales opportunities. There are 26 proposed timber harvest units that use either shovel or cable logging with one mile or less of temporary road. These units could be sold separately, several units could be combined, or one unit could be split into several sales to offer a range of volumes.

⁴ A road wholly or partially within or adjacent to National Forest System lands that is determined to be needed for long-term motor vehicle access, including state roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service.

Alternative 3 was developed to focus on the opportunity for small sales accessed by the existing road system and short temporary roads. Six timber harvest units require no additional road access. Less than ¼ mile of temporary road is needed for each of 16 units. Three units could be accessed by ½ mile or less of road. Alternatives 2, 4, 5, and 6 contain most of the same units as Alternative 3. In Alternatives 2, 5, and 6, other units may become available as small sales after road construction for a larger sale is completed.

Small Business Administration Program

The Forest Service and the Small Business Administration review market demand and supply and agree on an annual amount of volume to be offered to small businesses from the Tongass National Forest. Once an alternative has been selected in the Record of Decision, the number and size of the individual sales to be offered will be determined as part of the update to the Tongass National Forest ten-year sale schedule. Currently, the volume from the Woodpecker Project Area is planned to be offered in multiple sales over about a seven-year period, and offered as opportunities for small businesses. All of the mills in Southeast Alaska currently qualify as small businesses.

Long-term versus Short- term Timber Harvest Economics

The short-term economics of individual timber sales are different than long-term economics of a sustained harvest level over time. Selecting the most economically efficient alternative at this time may not provide the greatest efficiency over the length of the planning period. Even though this project may be considered a short-term decision, it should be responsive to long-term needs and issues. There are some costs associated with resource management that are considered fixed costs that are incurred each time a project is undertaken. These include things like the cost of environmental analysis, contract preparation, and contractor start-up and shutdown costs. A heavier harvest level with less frequent entries over a rotation (Alternatives 4, 5, and 6) incurs fewer costs over time than a lighter harvest level with more frequent entries (Alternatives 2 and 3).

The economic trade-offs between alternatives are weighed against the cost and value of the transportation system and how they affect future economic efficiency. Differences between the alternatives in the amount of transportation infrastructure built at this time and the harvest system used illustrate the range of alternatives and how they respond to both short-term and long-term harvest economics.

Alternatives 3 and 4 propose no transportation system development. Alternatives 2, 5, and 6 propose minor development of the transportation system by building classified roads, which is more costly than building

temporary road due to the design features. These alternatives access and harvest the highest percentage of operable cable acres in the Woodpecker Project Area.

Alternative 4 harvests a portion of the operable cable acres with helicopter, which would probably preclude future road construction. These are acres that could normally be harvested by cable logging if a road system were in place. Helicopter harvest on normally operable cable acres tends to commit all future harvest entries to helicopter logging systems.

Effects on Employment and Local Income

Contributions to Regional Employment

The action alternatives could generate or maintain employment and income in Southeast Alaska as a result of timber harvest, if timber is offered and sold. Employment would be both directly and indirectly related to timber harvest activities. Direct employment refers to logging and milling jobs. Indirect employment refers to businesses supporting the wood products industry. A conversion from board feet harvested to jobs is used to estimate the employment levels likely to result from the action alternatives. The analysis done at the Forest Plan level, to which this project is tiered, estimated that there are 5.28 direct jobs (not counting pulp mill employment) and 9.13 total jobs (using a multiplier of 1.73) per million board feet. The total jobs factor is more dependent on a larger area, and the total jobs from this project may vary. Table 3-13 displays the estimated direct timber-related jobs for the life of the project based on volume for each alternative. Any timber volume made available from the decision on the Woodpecker Project Area EIS is planned to be harvested in multiple sales. These jobs would be extended out over a period of years.

Implementation of Alternative 1 (No Action) would not generate or maintain direct or indirect employment opportunities within the region. As would be expected, the higher the volume of timber available and sold, the more jobs and income that would result. Since the timber volume is planned to be offered over a span of several years, this may mean that although there would be fewer jobs per year, economic effects would be felt over a longer time period. The Forest Plan FEIS, which bases its employment figures on the Tongass-wide timber base, has indicated the estimated number of jobs that would be expected to be available for the planning period.

Payments to the State of Alaska

The "Secure Rural Schools and Community Self-Determination Act of 2000" replaced the Twenty-five Percent Act of 1908, as amended. These

Acts provide part of the timber sale receipts for National Forest timber to be returned to the states to be used for public schools and roads. The states then distribute the receipts to organized boroughs and municipalities based on miles of road and school enrollment. Communities within the Unorganized Borough, which includes Petersburg, will receive payments based on the state's three highest payments between the years 1986 and 1999. This payment would continue until fiscal year 2006.

Table 3-13. Estimated Direct Jobs Related to Timber Harvest Based on Volume by Alternative¹

Alternative	Volume (mmbf)	Direct Jobs (mmbf x 5.28)
1	0	0
2	12.3	65
3	5.7	30
4	16.8	89
5	26.8	142
6	16.3	86

¹ Assumes that all of the timber volume is sold. Jobs will be created over a span of years depending when the sales are sold, amount of volume sold, and length of the timber sale contract.

Public Investment Analysis

Public investment analysis of each alternative compares the value of the timber with the cost of preparing the timber sale. The average Region 10 budget allocation costs and management expenses are subtracted from net stumpage revenues to determine net value. The costs and management expenses include environmental analysis, sale preparation, sale administration and engineering support. Forest Service cost per thousand board feet (mbf) is based on the Region 10 average budget allocation of \$41/mbf for analysis, \$23/mbf for sale preparation, \$9/mbf for sale administration and \$28/mbf for engineering support.

Environmental Analysis

Environmental analysis costs include field inventory and the analysis of data, public involvement, and the preparation of a document that satisfies the requirements of the National Environmental Policy Act. The timeframe is about two years and involves many resource specialists. Although it is based on timber volume, the cost fluctuates more with the amount of area to be examined and the accessibility of that area. The Woodpecker Project Area is accessible by road and located on Mitkof Island, where the Petersburg Ranger District office is located. This greatly reduces the cost of transportation to the area compared to other

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project areas. Most other areas are accessible only by helicopter, floatplane, or boat. The environmental analysis cost is constant and applies to all alternatives, including the No-Action Alternative.

One of the benefits that cannot be quantified is the knowledge gained for all resources from the inventory and analysis to benefit future forest management.

Sale Preparation

Unit layout and cruising costs increase significantly when partial harvest is prescribed compared to clearcutting. The Alternatives-to-Clearcutting Research Study on Kupreanof Island required about eight times more person-days to prepare a unit that involved marking individual trees throughout the unit compared to a clearcut unit. Designation of two-acre patches took about four times longer than a clearcut. Accessibility to the units is another major cost factor. Helicopter access and steeper terrain increase sale preparation costs compared to areas with existing road access.

Using these cost factors, Alternative 3 will be the least costly to prepare because of the easy access from existing roads. Alternatives 4 and 5 will have the highest costs, because many of the units can be reached only by walking longer distances from existing roads or by helicopter. Alternatives 2 and 6 would be more costly than Alternative 3, because the proposed access roads would not be built until after the timber is sold.

Sale Administration

Sale administration costs are higher when helicopter logging is involved because of the increased cost of accessing the timber harvest for administration. Scattered and smaller harvest areas are more costly to visit. Because of the higher sale administration costs for helicopter yarding, Alternative 4 will have higher costs than the other action alternatives. Alternative 5 will be the next most costly. Alternative 6 does contain some helicopter units, which would make it more costly to administer. Alternatives 2 and 3 will have lower costs due to the road access for all units.

Economic Analysis

Economic efficiency analysis or cost/benefit analysis is best done at a scale much larger than a project area. At the national level, it is conducted as a nation-wide Renewable Resource Assessment and updated every 10 years as directed by the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA). This assessment includes "an analysis of present and anticipated use, demand for, and supply of, renewable resources of forest, range, and other associated lands with consideration of the international resource situation, and an

emphasis of pertinent supply, demand and price relationship trends” (RPA, Section 3(1)).

An economic analysis at the regional level is presented in the Forest Plan FEIS, Part II, which balanced resource uses and values for the Tongass National Forest. Economic analysis compares the costs and benefits of all resources, whether or not these costs and benefits are realized as an explicit market price. This analysis considers a variety of positive and negative resource-related external factors, passive use, non-consumptive use, and opportunity costs at various scales.

An economic efficiency analysis includes national and global values, such as carbon sequestration, clean water, inspiration and beauty (including the knowledge that such places exist), and local values such as scenery, quality of life, community and sense of place. Many of these benefits and costs are not easily valued through the market or exchange of money and can be difficult to quantify or summarize. Often, the same impact may be considered a cost to some and a benefit to others depending on individual values. Economic efficiency analysis is another tool used in the decision making process to gain information, both quantitative and qualitative, about a project and to compare differences between alternatives. This document tiers to the analysis done in the Forest Plan for non-commodity resources. Direct effects of the Woodpecker project for economic sectors are displayed to the extent that they are known.

Alternative 1, No-Action, will maintain the current level of opportunities, other than timber harvest, for resource use. Those people interested in maintaining unroaded areas, primitive recreation opportunities, current levels of roaded access, and scenery would have the same condition in the near future as they have now. Those interested in using or expanding roaded recreation and access or increasing wood product resource uses will also have the same opportunities in the near future as they do now.

All action alternatives will cause changes to the current situation. These changes are described as increases or decreases in opportunities, benefits, or costs. In general, alternatives with lower harvest levels tend to have less impact on other resources when compared to those with higher levels. Many of the “costs” are short-term, lasting only as long as the timber sale is active. Wood products employment associated with the sales, noise, LTF activity and increased traffic are examples of short-term impacts. Other costs have more long-term effects. Road development, visual changes to harvest units, increased access, and scenery changes are impacts that will remain after timber harvest. The time frame of individual impacts should be considered when evaluating the impacts of each alternative and when looking at cumulative effects.

Commercial Fishing

Most impacts to commercial fish species occur in ocean waters, outside the control of the Forest Service. With the use of riparian standards and guidelines, plus estuary and beach buffers of 1,000 feet, the Forest Plan determined that commercial fishing and seafood processing would be unlikely to be significantly impacted by any of the alternatives (Forest Plan FEIS Part II, page 3-521) for the length of the planning period.

Petersburg is highly dependent on seafood harvesting and processing. A number of fish, shrimp, and crab canneries have operated in Petersburg and Scow Bay over the years. Petersburg is homeport to the largest salmon purse seining fleet in Southeast Alaska. Halibut has also been central to the local fishing industry because it provides regular employment through the winter months. The use of the existing Woodpecker Cove LTF is unlikely to have any effect on commercial fisheries.

Recreation and Tourism

The Forest Plan did an economic analysis of recreation and tourism for the regional economy. It is difficult to isolate and quantify use that is specific to the Woodpecker Project Area, since people who use the project area for recreation and tourism activities tend to spread their activities out over all of Mitkof Island, or to other areas of the National Forest. Costs and revenues associated with commercial tourism in the Woodpecker Project Area have been estimated for the existing condition, but not by alternative.

Outfitter and guide use specific to the Woodpecker Project Area consisted of 12 user-days in 1998, 36 user-days in 1999, and 60 user-days in 2000. This included camping and fishing within the project area. Parts of the project area are visible from the Alaska Marine Highway and can be viewed on the trip between Wrangell and Petersburg. Harvest units and prescriptions were designed to minimize the impacts to scenery in all alternatives. While the action alternatives will likely cause changes in the use of the area in the short term, it is difficult to determine the changes in use patterns and associated revenues. It is possible that current operators will go elsewhere during sale activity, or longer. Other types of operations may be attracted to the area during and after sale activity by the improved road access. The increased road access may increase or decrease some existing commercial tour operators' activities, depending on the operators' preferences and the nature of their operations.

Recreation costs and benefits are similar to those for commercial uses. The current use in the Woodpecker Project Area is likely to increase as road access and maintenance levels improve. The experience and types of use will change. People who are currently seeking primitive recreation opportunities in the Woodpecker Project Area will likely move to more remote areas within or outside of the project area. Those interested in roaded recreation will take advantage of the new opportunities provided. It is difficult to place a net value on these changes, as some people would benefit and some would be negatively impacted. In Alternatives 2, 4, 5, and 6 recreation use and commercial use is expected to increase slightly with improved road surfaces and use of the parking turnouts and new dispersed recreation sites.

Effects of the Alternatives

The comparison of the financial and economic effects of the alternatives relates to how much the products of each alternative are worth in the market place. This includes both the market and non-market values of the resources and the effects on both consumptive and non-consumptive uses of the Tongass National Forest. The financial analysis is based on the appraised value of the alternatives and may not reflect the final appraised values from each sale offered. The economic analysis tiers to the Forest Plan and refers only to the known direct effects within the project area.

Alternatives 2 and 5 have similar appraised values even though Alternative 5 has more than twice the volume. The higher volume provided in Alternative 5 is offset by the use of more expensive helicopter logging to harvest some of that volume. Alternative 6 includes some helicopter logging units, which reduces the appraised value.

Alternative 4 has the lowest appraised value due to the amount of helicopter logging proposed. Small sales from Alternative 3 will have differing advertised values based on the distance to town or the LTF, and the amount of temporary road that would need to be built.

Sales that may result from Alternatives 2, 4, 5, and 6 can be configured to address the needs of both small and large operators, as well as different market conditions.

Alternative 1

No timber would be harvested. In order to meet the estimated demand for timber, more timber may need to be harvested elsewhere on the Tongass National Forest. This alternative would provide no opportunities for local wood products employment, and no return to the U.S. Treasury. There would be no small sales offered for local operators. There would be no effect on commercial recreation use or commercial fisheries.

Alternative 2

This alternative has an estimated high market value of \$15.38/ccf (\$31.39/mbf) and an estimated low market value of -\$6.12/ccf (-\$12.49/mbf). The timber volume is estimated to be 12.3 million board feet. The amount of classified road to be built is 4.8 miles and the amount of temporary road proposed is 6.1 miles. Alternative 2 includes no helicopter yarding, only ground-based logging systems.

At least one timber sale would need to be large enough to offset the expense of building classified road. Not all sales offered may be viable under all market conditions, especially those sales proposing road construction. Small sales (less than one million board feet) with less than one mile of road construction could be offered along the existing road system.

The effect on outfitters and guides would be slight and limited to use of the road system and log transfer facility. Recreation use by residents and tourists may be displaced during operations. There would be no effect on commercial fisheries.

Alternative 3

This alternative has an estimated high market value of \$35.24/ccf (\$71.92/mbf) and an estimated low market value of \$17.37/ccf (\$35.45/mbf). The timber volume is estimated to be 5.7 million board feet. About 3.9 miles of temporary road is proposed. There is no helicopter logging.

Alternative 3 relies on the existing road system and only temporary roads are needed to access units. This alternative is designed to focus on offering sales of one million board feet or less, with less than one mile of temporary road construction. All timber sales should be economically viable under all market conditions.

The effect on outfitters and guides would be the least of any action alternative and would be limited to use of the road system and log transfer facility. Recreation use by residents and tourists would probably not be displaced during operations. There would be no effects on commercial fisheries.

Alternative 4

This alternative has an estimated high market value of \$5.63/ccf (\$11.49/mbf) and an estimated low market value of -\$20.24/ccf (-\$41.31/mbf). The timber volume is estimated to be 16.8 million board

feet. No new classified road would be built and the amount of temporary road proposed is approximately 3.1 miles. The majority of the units would be helicopter yarded. This alternative has the longest helicopter yarding distances. Small sales (less than one million board feet) with less than one mile of road construction could be offered along the existing road system.

This alternative has the lowest appraised value because of its dependence on helicopter logging and the length of the turn-times. A timber sale would need to offer enough volume to offset the expense of mobilizing and running a helicopter. This may mean that not all sales offered may be viable under all market conditions. The economics of a small volume helicopter timber sale, or a larger timber sale that offers 100 percent helicopter volume, could be less favorable regardless of the current market conditions due to the higher yarding costs associated with helicopter yarding. A timber sale that offers a combination of helicopter and ground-based systems would generally provide for better economics, as the overall weighted average sale yarding costs would be reduced with the introduction of the lower cost yarding systems. A timber sale that relies on road construction may also not be viable under low market conditions.

The effect on outfitters and guides would be limited to use of the road system and log transfer facility. Recreation use by residents and tourists may be temporarily displaced during operations. The alternative would have no effect on commercial fisheries.

Alternative 5

This alternative has an estimated high market value of \$15.31/ccf (\$31.24/mbf) and an estimated low market value of -\$6.16/ccf (-\$12.57/mbf). The timber volume is estimated to be 26.8 million board feet. About an equal amount of ground-based yarding and helicopter yarding would occur. The amount of classified road to be built is 3.5 miles and the amount of temporary road proposed is 4.1 miles. Small sales (less than one million board feet) with less than one mile of road construction could be offered along the existing road system.

A timber sale that involves road building and/or helicopter yarding would need to offer enough volume to offset the expenses of mobilizing and running a helicopter and/or building roads. This could mean that not all sales offered would be viable under all market conditions. The economics of individual sale offerings within this alternative could be improved by including a mix of units with both helicopter and ground based yarding systems. Combining the more expensive helicopter yarding system with the lower cost ground based systems would result in

3 Economics

a lower overall weighted average yarding cost. The economics of individual helicopter units offered alone in smaller sales, or a larger helicopter sale of several units, would be less favorable, but could be made feasible with careful sale design.

The effect on outfitters and guides would be limited to use of the road system and log transfer facility. Recreation use by residents and tourists may be temporarily displaced during operations. The alternative would have no effect on commercial fisheries.

Alternative 6

This alternative has an estimated high market value of \$12.35/ccf (\$25.20/mbf) and an estimated low market value of -\$10.44/ccf (-\$21.31/mbf). The timber volume is estimated to be 16.3 million board feet. A third of this volume would be logged using helicopter. The amount of classified road to be built is 4.8 miles and the amount of temporary road proposed is 3.8 miles. Small sales (less than one million board feet) with less than one mile of road construction could be offered along the existing road system.

This alternative provides the greatest opportunity for a variety of timber sales. A timber sale that involves road building and/or helicopter yarding would need to offer enough volume to offset the expenses of mobilizing and running a helicopter and/or building roads. This could mean that not all sales offered would be viable under all market conditions. The economics of individual sale offerings within this alternative could be improved by including a mix of units with both helicopter and ground based yarding systems. Combining the more expensive helicopter yarding system with the lower cost ground based systems would result in a lower overall weighted average yarding cost. The economics of individual helicopter units offered alone in smaller sales, or a larger helicopter sale of several units, would be less favorable, but could be made feasible with careful sale design.

The effect on outfitters and guides would be limited to use of the road system and log transfer facility. Recreation use by residents and tourists may be displaced during operations. The alternative would have no effect on the commercial fishing industry.

Cumulative Effects

Timber supply depends on the many interwoven timber harvest projects across the Tongass National Forest. The amount of timber harvest that occurs at this time also affects the availability of timber in the foreseeable future and contributes to the long-term timber supply. Timber from the Woodpecker Project Area would be one part of the timber supply available for public consumption, calculated for the life of

the Forest Plan. More complete evaluations are found in Appendix A of this EIS, the Forest Plan, and the report entitled "Responding to the Market Demand for Tongass Timber" (Morse, 2000).

The Overlook Environmental Analysis (proposed volume of 5-8 million board feet) is also on Mitkof Island but not in the vicinity of the Woodpecker Project Area. This analysis is expected to be complete in summer of 2001. Several small sales are planned in this analysis.

Issue 4 – Crystal Inventoried Roadless Area

Introduction

Inventoried Roadless Areas are National Forest System lands identified as undeveloped lands where there are no improved roads maintained for travel by motorized vehicles intended for highway use and which do not have extensive timber harvest or other developments. Roadless areas have important values and characteristics that are becoming increasingly scarce as other lands are developed. Roadless areas provide places to recreate away from roads and development, clean drinking water, undisturbed landscapes, habitat for plants, birds, fish and other wildlife, and opportunities to study natural ecosystems. Inventoried Roadless Areas were originally identified during the Roadless Area Review and Evaluation studies (RARE and RARE II) done in the 1970s. These studies identified areas that would meet the minimum criteria for inclusion in the National Wilderness Preservation System.

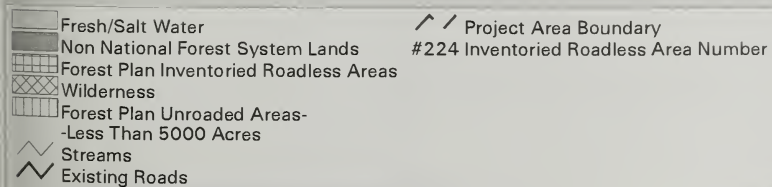
Forest Plan Analysis

During Forest Plan revision, all National Forest System lands, including unroaded areas, were included in this analysis. The previously identified Inventoried Roadless Areas were re-examined to determine their land use designation (LUD). About 90 percent of the Inventoried Roadless Areas in the Tongass National Forest were included in non-development LUDs, such as Remote Recreation or Semi-remote Recreation. The other ten percent were assigned to development LUDs that allow timber harvest or road construction.

Crystal Inventoried Roadless Area #224

The Woodpecker Project Area includes a portion of one Inventoried Roadless Area, Crystal (#224), named for Crystal Mountain on the north border of the project area. About two-thirds of the Crystal Inventoried Roadless Area is within the Woodpecker Project Area. Table 3-14 displays the description of the Crystal Inventoried Roadless Area (#224) found in Appendix C of the Forest Plan FEIS.

The Forest Plan allocated some parts of the Crystal Inventoried Roadless Area to LUDs that allow timber harvest and road construction, and some parts to LUDs that do not allow development (Table 3-15). About 37 percent of the Crystal Inventoried Roadless Area is within non-development LUDs.



Inventoried Roadless Areas
Figure 3-7

0 15840 31680

Scale is 1 inch = 15840 feet

3 Crystal Inventoried Roadless Area

Table 3-14. Forest Plan Description of the Crystal Inventoried Roadless Area

(224) Crystal
National Forest acres: 18,613

Description

The Crystal Roadless Area (#224) is located in the southwestern portion of Mitkof Island, about 15 miles southwest of the City of Petersburg. Forest road, harvest units, and the Mitkof Highway form the irregularly shaped land boundaries, with just six miles of shoreline on saltwater. Two mountainous areas dominate the landform: Crystal Peak to the north and the northern portion of the Sumner Mountains to the south. Crystal Lake is a significant water body to the north. The area was claimed by several Stikine Tlingit clans and used for hunting and gathering of subsistence items. Evidence of their use is indicated by the remains of temporary camps, fish weirs, petroglyphs, and bark-stripped trees. Vegetation is typical southeast Alaska temperate rain forest. A population of deer and black bear range over the area, as do some moose. Due to its proximity to Petersburg and accessibility by road and water, the area receives moderate recreational use, consisting primarily of hunting, berry picking, and woodcutting. There is one trail [on state land] from the state's Crystal Lake Fish Hatchery to Crystal Lake, which provides water for the hatchery and its residents. Some state land selections¹ have occurred or are pending in the southern portion. The western portion has been selected by the state, and selections are pending which encompass Crystal Lake. The top of Crystal Mountain was recently designated a communications site, and a small building and antenna are planned there².

Wilderness Potential

The area is unmodified; however its overall integrity is not considered pristine. Adjacent management activities have likely impacted some of the natural integrity of this area, such as wildlife. The irregular shape of the area and inclusion of private land also lessen its natural integrity. There is low to moderate opportunity for solitude within the area. Air traffic and vehicle traffic pass nearby, and timber harvest, when occurring nearby, would have a significant impact on solitude. The area provides some semi-primitive recreation opportunity.

Resources

The area contains 5,684 acres of tentatively suitable forest land. The potential for managing timber in this roadless area is dependent on market values and the construction of a road system or logging systems capable of harvesting the area. There is potential for shelters and trails are planned to access the ridge and top of Crystal Mountain. There is some potential for interpretive activities due to the area's accessibility and proximity to the existing interpretive tour of the Mitkof Highway and Three Lakes Road³, and the popular Blind Slough recreation site. The extensive alpine area is an attraction for recreationists. Support for the trail to the mountain top and alpine terrain above Crystal lake is high. There are three special uses in the area. The area has low minerals potential.

¹ All state selections have been completed.

² The communications site has been built.

³ The interpretive tour no longer exists.

Table 3-15. Land Use Designations in the Crystal Inventoried Roadless Area

Land Use Designation	Crystal Inventoried Roadless Area #224	Crystal Inventoried Roadless Area Within the Woodpecker Project Area
Development Land Use Designations		
Timber Management	4,320 acres	4,320 acres
Modified Landscape	3,790 acres	3,790 acres
Scenic Viewshed	3,470 acres	3,470 acres
Non-development Land Use Designations		
Old-growth Reserve	3,450 acres	0 acres
Special Interest Area	2,880 acres	0 acres
Recreational River	410 acres	0 acres

Size of the Crystal Inventoried Roadless Area

The Forest Plan identified the size of the Crystal Inventoried Roadless Area to be 18,613 acres using GIS point data, but the project-level GIS polygon layer showed the roadless area to be 19,210 acres. The Forest Plan Inventoried Roadless Areas do not include lands within 600 feet of clearcut units on National Forest System land or within 1,200 feet of a road.

The project-level analysis also determined that about 770 acres of the Crystal Inventoried Roadless Area should not be included within the roadless area if a clearcut on nearby private land were treated in the same manner as a harvested unit on National Forest System land. Clearcuts on non-National Forest System land were not considered during Tongass National Forest analysis due to lack of consistency in available information. Therefore, the actual size of the Crystal Inventoried Roadless Area, after taking this 600-foot zone around the private clearcut into account, would be approximately 18,320 acres, which is the roadless acreage used for this analysis.

3 Crystal Inventoried Roadless Area

Evaluation of the Crystal Inventoried Roadless Area

The social and ecological values discussed here were identified as characteristics of Inventoried Roadless Areas during the national analysis for the Forest Service Roadless Area Conservation Rule. It is recognized that these characteristics do not necessarily apply equally to all roadless areas. Although the final Rule does not apply to the Woodpecker Project Area, the evaluation here determines whether and to what extent the characteristics identified during the national analysis apply to the Crystal Inventoried Roadless Area.

Proximity to Wilderness and Other Inventoried Roadless Areas

Most of Southeast Alaska is currently unroaded. Lands withdrawn by Congress such as Wilderness and National Monuments comprise about 41 percent of the Tongass National Forest. About 90 percent of the Inventoried Roadless Areas, which do not include Wilderness areas, are within land use designations that would retain their unroaded condition through the life of the Forest Plan. Past legislation and the Forest Plan determined the spatial placement and distribution of roadless areas across the landscape for the enjoyment of people who want a remote, solitary experience.

There are two congressionally designated Wilderness Areas near the Crystal Inventoried Roadless Area. The Petersburg Creek - Duncan Salt Chuck Wilderness, which is 46,850 acres in size, is approximately 10 miles to the north, on Kupreanof Island. The Stikine - LeConte Wilderness located on the mainland is 449,950 acres in size and is located 8 miles away to the east on the mainland.

The Crystal Inventoried Roadless Area (#224) is one of three Inventoried Roadless Areas on Mitkof Island (Figure 3-8). East Mitkof Inventoried Roadless Area (#220) to the northeast is 8,830 acres in size, with 5,560 of those acres in non-development LUDs. Since timber harvest and associated road building and major facilities are not allowed within non-development LUDs, this Inventoried Roadless Area is likely to remain greater than 5,000 acres in size in the future. Manzanita Inventoried Roadless Area (#223) to the east is 8,390 acres in size, with 1,550 of those acres in non-development LUDs.

The Forest Plan also identified several roadless areas on Mitkof Island that are less than 5,000 acres in size. One of these areas is to the north of the Crystal Inventoried Roadless Area and is 4,370 acres in size. Two other areas to the northeast are 3,420 acres and 1,150 acres in size, respectively.

Woewodski Island Inventoried Roadless Area (#218), across the Wrangell Narrows from the Woodpecker Project Area, is 10,180 acres in size. The island has been designated as Scenic Viewshed LUD, which is a development LUD where timber harvest and road building may occur. Two other Inventoried Roadless Areas (Castle River #215 and Green Rocks #217) are on Kupreanof Island, about two to four miles to the west, and are 46,800 acres and 10,700 acres in size, respectively. Most of these two roadless areas are in non-development LUDs.

Proximity to Non-National Forest System Lands That Could Be Developed

Approximately 80 percent of Mitkof Island is National Forest land. There is one block of State of Alaska land adjacent to the Crystal Inventoried Roadless Area to the northwest. Much of this area has been recommended for wildlife habitat in the state's Central/Southern Southeast Area Plan (November 2000) rather than for commercial or residential development. The state's plan does identify a few residential development blocks along the beach. Crystal Lake, which is also state land that is surrounded by the Crystal Inventoried Roadless Area, provides water for Crystal Lake fish hatchery operations and personnel. A local company bottles this water for regional sale.

One parcel of private land is on the southwest corner of the roadless area. This block has previously been clearcut and there are no plans for development at this time.

Amount of Human Disturbance – Past, Present and Future

Although the Crystal Inventoried Roadless Area is the largest roadless area on Mitkof Island, there are many human influences present. These influences affect the degree of solitude available in the area and reduce the pristine nature of the roadless area.

The Crystal Inventoried Roadless Area is surrounded by both land and water transportation networks. The Wrangell Narrows and Sumner Strait are navigational waterways used by the Alaska Marine Highway System, commercial barging operations, commercial fishing vessels, commercial outfitter/guides, tour ships and many private recreational boaters. Mitkof Highway, the only state highway on Mitkof Island, is less than ½ mile away from the northern boundary of the roadless area. Noise from these traffic routes, as well as noise from aircraft, including jet plane traffic, can be heard from within the roadless area.

A hydroelectric site uses the water power generated from Crystal Lake. A recently expanded communications site that supplies and maintains

3 Crystal Inventoried Roadless Area

repeaters for radio and television communications is located on top of Crystal Mountain.

Wildfire in Southeast Alaska is rare due to the high amount of rainfall. Most wildfires that do occur are caused by human negligence and result in little resource damage. Roads do allow access by recreationists who occasionally start small fires, but they also allow quick access for fire suppression.

Biological Values

The vegetation within the Crystal Inventoried Roadless Area is typical of Southeast Alaska. Most of the area is covered with a mosaic pattern of muskeg and temperate rainforest, much of which is low-productive forest. The peaks of Crystal Mountain and Sumner Mountain contain alpine habitat. Much of the Crystal Inventoried Roadless Area, including the alpine area, is used for recreation because of the access provided by the nearby road system. Because of the existing access and use, the habitat types in the Crystal Inventoried Roadless Area are not considered unique sanctuaries of biological diversity.

Some areas of beach and estuary plant associations are found along Blind Slough. The areas within the Crystal Inventoried Roadless Area are within non-development land use designations outside of the Woodpecker Project Area.

The old-growth habitat reserve system of the Forest Plan is a system of large (approximately 40,000 acres in size or greater), medium (approximately 10,000 acres in size or greater), and small old-growth habitat reserves designated across the Tongass National Forest to ensure long-term species viability and to maintain biodiversity. A portion (6,230 acres) of the Crystal Inventoried Roadless Area serves as part of a 9,750-acre medium old-growth habitat reserve (#71). Part of this old-growth habitat reserve is also designated as the Blind River Special Interest Area. Landscape connectivity between large and medium reserves was reviewed during the analysis for the Woodpecker Project Area in cooperation with the U.S. Fish and Wildlife Service and the Alaska Department of Fish and Game. See the Biodiversity section of this chapter for more information.

Inventoried Roadless Areas may have value as habitat for wildlife species with large home ranges, such as wolf or brown bear. The Crystal Inventoried Roadless Area in conjunction with the rest of Mitkof Island provides habitat for wolves (See the section on wolves in this chapter). Brown bears are not resident to Mitkof Island, although occasional sightings of individuals that wander from the mainland do occur.

The only threatened or endangered species that are known to occur near this Inventoried Roadless Area are marine mammals, which would not benefit from this habitat (see the Threatened and Endangered Species section of this chapter). Trumpeter swans, a sensitive species, use some of the boundary waters. Blind River is located on the northern edge of the Crystal Inventoried Roadless Area and is outside the Woodpecker Project Area. Some trumpeter swans winter at Blind River, which is one of this species' southernmost wintering spots. The northern shore of Blind River is outside of the roadless area and is bordered by the Mitkof Highway, which is traveled year-round. There seems to be little human-caused disturbance of the swans, especially after the area was administratively closed to snow-machine use.

No major fisheries exist within the Crystal Inventoried Roadless Area. Blind River, which is just north of the area, supports small native runs of chum salmon, pink salmon, Dolly Varden trout, cutthroat trout, steelhead trout, and hatchery-enhanced coho salmon. It also supports a run of hatchery-produced king salmon. These runs are important to the relatively small sport, subsistence, and commercial fisheries in the area. Several local lodges and outfitter-guides base their operations on the Blind Slough king salmon and coho salmon fisheries. A subsistence gillnetting area for coho salmon occurs at the mouth of Blind River. The king salmon run in June and July is popular with local residents and tourists, who take advantage of one of the few shore-based king salmon fisheries in Southeast Alaska.

Although there have been no sightings of non-native wildlife species within the Crystal Inventoried Roadless Area, non-native elk may become established in the area. Elk were introduced on Etolin Island in the 1980s. The elk have migrated north to Zarembo Island, and elk sightings have occurred on Mitkof Island. There are no physical barriers that would prevent invasion of elk into the roadless area. Tansy ragwort, an invasive plant species, has appeared near Ketchikan, about 120 miles south of Mitkof Island, but has not been seen in the Crystal Inventoried Roadless Area.

Recreational Values

Crystal Mountain has been a destination for hikers and cross-country skiers for years. Prior to 1989, the route most often used was up the water pipeline to Crystal Lake. After the Snake Ridge Road (Road 40006) was built, most people began using it to access a primitive, unmaintained path that leads to the top of Crystal Mountain.

Southwest Mitkof Island, where the Crystal Inventoried Roadless Area is located, is an important deer hunting area for local residents. One of the

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reasons for high use of the area is the relatively easy access provided by the adjacent road system (see the Deer Hunting section of this chapter).

Cultural or historical values

There are no known archeological sites within the Crystal Inventoried Roadless Area that are potentially eligible for nomination to the National Register of Historic Places. Traditional uses were primarily associated with shorelines in Southeast Alaska. The only documented traditional activities in or near the roadless area are along the shoreline, which is now on State of Alaska land.

Research Values/ Reference Landscapes

Several Research Natural Areas were established with the Forest Plan for the purposes of research, monitoring, education, and/or to maintain biological diversity. Other non-development land use designations, such as Semi-remote Recreation, Primitive Recreation, Special Interest Area and Wilderness, may also provide these opportunities.

The Blind Slough Special Interest Area, a portion of which is within the Crystal Inventoried Roadless Area, is outside the Woodpecker Project Area. The presence of alpine, wetland, estuary, and upland habitats within the Blind Slough Special Interest Area provides the basis for its zoological and scenery values. Other zoological values include the trumpeter swan wintering area, the number of species of migratory birds, and the king salmon run.

Several research studies that have occurred within and around the Crystal Inventoried Roadless Area include studies on hydrology, flying squirrels, and deer and marten telemetry tracking studies. These studies were located in this area primarily because the road system provided access, not because of the natural setting.

Direct Effects on the Crystal Inventoried Roadless Area

This section describes the effects of the project on the Crystal Inventoried Roadless Area in terms of the size of the roadless area after harvest. Table 3-16 displays these effects.

In all alternatives, the Crystal Inventoried Roadless Area would still maintain the area that contains the highest values for resources other than timber management. It would still qualify as an Inventoried Roadless Area and would still be eligible for inclusion in the National Wilderness Preservation System, since it would still have more than 5,000 acres with no roads or harvested areas. In all action alternatives, the proposed activities occur in areas allocated to development land use designations in the southern portion of the roadless area. The northern portion of the

roadless area contains the most important biological and recreational values of the area, and was identified during the Forest Plan revision analysis and designated as a Special Interest Area and as Old-growth Habitat.

Alternative 1 – No-Action Alternative

No activities are proposed and there would be no effect on the Crystal Inventoried Roadless Area.

Alternative 2

This alternative proposes to construct 3.1 miles of road and to partial harvest 310 acres of timber within the Crystal Inventoried Roadless Area. If the additional 600-foot zone applied around existing clearcut units in the analysis of the Forest Plan were applied around the partial harvest units proposed for this alternative, 850 acres of the roadless area would be affected. These proposed management activities are consistent with the Forest Plan. No other activities are proposed within the roadless area.

The maximum effect of Alternative 2 on the Crystal Inventoried Roadless Area would decrease its size to 17,470 acres if a 600-foot zone around each proposed harvest unit within or adjacent to the existing roadless area is not considered part of the roadless area. The area that contains the highest values for resources other than timber management would not be roaded.

Alternative 3

This alternative proposes no new roads, harvest units, or other management activities within the roadless area. If the additional 600-foot exclusion applied around existing clearcut units in the analysis of the Forest Plan were applied around the partial harvest units proposed for this alternative, only 140 acres of the roadless area would be affected. This alternative would have the least effect on the Crystal Inventoried Roadless Area.

Alternative 3 would decrease the size of the Crystal Inventoried Roadless Area to 18,180 acres if a 600-foot zone around each proposed harvest unit within or adjacent to the existing roadless area is not considered part of the roadless area. The area that contains the highest values for resources other than timber management would not be roaded.

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Alternative 4

This alternative proposes to partial harvest 830 acres of timber within the Crystal Inventoried Roadless Area. If the additional 600-foot zone applied around existing clearcut units in the analysis of the Forest Plan were applied around the partial harvest units proposed for this alternative, 1,910 acres of the roadless area would be affected. These units are proposed for helicopter logging, so no new roads would be built in the area. These proposed management activities are consistent with the Forest Plan. No other activities are proposed within the roadless area.

The maximum effect of Alternative 4 on the Crystal Inventoried Roadless Area would be to decrease its size to 16,410 acres if a 600-foot zone around each proposed harvest unit within or adjacent to the existing roadless area is not considered part of the roadless area. The area that contains the highest values for resources other than timber management would not be roaded.

Alternative 5

This alternative proposes to build 2.5 miles of road and to harvest 800 acres of timber within the roadless area. All units will be partial-harvested, except Unit 90b, which is a 20-acre clearcut unit. If the additional 600-foot zone applied around existing clearcut units in the analysis of the Forest Plan were applied around the harvest units proposed for this alternative, 1,860 acres of the roadless area would be affected. These proposed management activities are consistent with the Forest Plan. No other activities are proposed within the roadless area.

The maximum effect of Alternative 5 on the Crystal Inventoried Roadless Area would be to decrease its size to 16,460 acres if a 600-foot zone around each proposed harvest unit within or adjacent to the existing roadless area is not considered part of the roadless area. The area that contains the highest values for resources other than timber management would not be roaded.

Alternative 6

This alternative is very similar to Alternative 2. This alternative proposes to construct 3.1 miles of road and partial harvest 370 acres of timber within the Crystal Inventoried Roadless Area. If the additional 600-foot zone applied around existing clearcut units in the analysis of the Forest Plan were applied around the partial harvest units proposed for this alternative, 840 acres of the roadless area would be affected. These proposed management activities are consistent with the Forest Plan. No other activities are proposed within the roadless area.

The maximum effect of Alternative 6 on the Crystal Inventoried Roadless Area would be to decrease its size to 17,480 acres if a 600-foot zone around each proposed harvest unit within or adjacent to the existing roadless area is not considered part of the roadless area. The area that contains the highest values for resources other than timber management would not be roaded.

Cumulative Effects

Cumulative effects on roadless areas were analyzed at the Forest Plan level. The decision was made to allocate the Inventoried Roadless Areas to either development or non-development land use designations. During the analysis for the Forest Plan, the values of the roadless areas, the location, and the proximity to other roadless areas, especially congressionally designated Wilderness Areas, were used to determine which roadless areas would be allocated for development.

Another project on Mitkof Island, the Overlook Project Area EA, was analyzed during 2000. The Overlook project, which is northeast of the Woodpecker Project Area, may affect a roadless area to the northeast that is less than 5,000 acres. It would not affect any Inventoried Roadless Area.

Other nearby roadless areas that could be affected by timber harvest or roads in the near future include Woewodski (#218), the two small areas less than 5,000 acres on the north end of Mitkof Island, and a small portion of Castle River (#215).

Table 3-16. Effects on the Crystal Inventoried Roadless Area by Alternative

Measure of Effect	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Harvest unit acres within roadless area	0	310	0	830	800	370
% of roadless area affected by units	0%	1.7%	0%	4.5%	4.4%	2.0%
Harvest unit acres plus areas within 600 ft of harvest units	0	850	140	1,910	1,860	840
Size of roadless area remaining ¹	18,320 acres	17,470 acres	18,180 acres	16,410 acres	16,460 acres	17,480 acres
Miles of new classified road within roadless area	0	2.0	0	0	1.4	2.0
Miles to be left open within roadless area after harvest	0	0.8	0	0	0.8	0.8

¹excluding areas within 600 feet of a harvested unit

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National Roadless Area Conservation Rule

The Forest Service is reevaluating its Roadless Area Conservation Rule (Roadless Rule) and is currently enjoined from implementing all aspects of the Roadless Rule by the U.S. District Court, District of Idaho. The Woodpecker Project Area Draft EIS was issued prior to the deadline in the Roadless Rule, so this project could move forward regardless of the status of the Roadless Rule.

In *Sierra Club v. Lyons* (J00-0009 (CV)), the U.S. District Court, District of Alaska enjoined the Tongass National Forest from taking any action to change the wilderness character of any eligible roadless area until a supplemental environmental impact statement evaluating wilderness recommendations for roadless areas has been prepared. On May 23, 2001, the Judge temporarily lifted this injunction pending a hearing and further order from the Court. On June 7, 2001, the Chief of the Forest Service reserved the right to make all land management decisions involving timber management and road construction within Inventoried Roadless Areas.

National Forest System Road Management Rule

The Woodpecker Project Area Final EIS is consistent with the Forest Service Transportation Final Administrative Policy (Roads Rule). Among other direction, the Roads Rule requires that an area-specific roads analysis be completed and a determination of need for amendment or revision of the Forest Plan be made if any roads are to be constructed or reconstructed in inventoried roadless or contiguous unroaded areas, until a Forest-wide roads analysis has been completed (FSM 7712.16(c)). This analysis has been made for the Woodpecker Project Area and can be found in the Mitkof Island Roads Analysis, on file at the Petersburg Ranger District. A separate interim directive (7710-2001-1) extends the deadlines for requiring roads analysis for all road management decisions to January 12, 2002 (FSM 7712.15), but does not apply to FSM 7712.16.

Other Environmental Considerations

This section describes resources and other considerations that are likely to remain unaffected by the proposed action or alternatives, or will not be affected to a significant degree. Many of these issues involve concerns raised during scoping. The Forest Plan has addressed the management implications of most of these issues through the establishment of Forest-wide standards and guidelines, which are designed to prevent, reduce or mitigate adverse impacts when implemented at the project level.

Biodiversity

Biodiversity is a measure of the variety of all the plant and animal communities and species within an area, including the ecological processes that lead to maintenance of well-distributed viable populations of species. Habitat refers to the environment in which a species lives and thrives. A species may occupy one distinctive habitat type, a range of different habitats, or may change habitats seasonally. Habitat types in the Woodpecker Project Area are shown in Table 3-17. The analysis of biodiversity for the Woodpecker Project Area in this section focuses on the effects on old-growth forest habitat.

Old-growth Forest Habitat

Currently there are about 14,250 acres of productive old-growth forest on National Forest System lands within the Woodpecker Project Area, or about 86 percent of the old-growth forest present in 1954, before large-scale logging began (Table 3-18). About 44 percent of this remaining old-growth forest is unsuitable or unavailable for timber harvest. These acres will remain in an old-growth condition throughout the life of the Forest Plan. These acres are within beach, estuary, and riparian buffers, on soils classed as unsuitable for timber harvest, or within non-development land use designations such as Old-growth Habitat Reserve and Special Interest Area.

The Forest Plan contains a comprehensive conservation strategy to assure long-term species viability using a system of old-growth habitat reserves. Connectivity between large and medium old-growth habitat reserves has been identified and either left intact or mitigated. Small old-growth reserves have been developed between the medium and large reserves in each VCU not containing another reserve for additional connectivity.

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The proposed harvest units that retain 50 percent or more of the existing stand structure would still function as productive old-growth forest after harvest. The exception would be those openings created by the removal of two- or three-acre patches. The stands with 20-30 percent retention of trees are not considered to be old-growth forest after harvest, even though the trees remaining would partially offset some of the early seral declines in species richness.

Table 3-17. Habitat Types in the Woodpecker Project Area

Habitat Type ¹	Description	Acres
Beach and Estuary Fringes ^{2,5}	Areas along saltwater or with tidal influences	5,130 acres
Wetlands	Areas that are saturated with water for part of the year	12,970 acres
Riparian Areas ³	Areas adjacent to fresh-water streams	2,600 acres
Deciduous Forest ⁵	Areas with deciduous trees, such as alder, often old roads	60 acres
Second-growth Forest ⁴	Areas that have been previously harvested and have regenerated	2,930 acres
Old-growth Forest	Forest that has never been harvested	14,250 acres
Subalpine/alpine ⁵	Areas generally over 1,500 feet in elevation	2,650 acres

¹ Since some of these habitats overlap, the sum of acres shown on this table is greater than the total project area. Beach and estuary fringes, wetlands, and riparian areas are protected by Forest Plan standards and guidelines.

² The beach fringe may include old-growth forest, second-growth forest and wetlands.

³ As defined by the Forest Plan. The effects on riparian areas are discussed in the Fisheries and Water Quality section of this chapter.

⁴ The effects on second-growth forest are discussed in the Timber and Vegetation section of this chapter.

⁵ These areas will not be affected by management activities.

Table 3-18. Estimated Acres of Productive Old-growth (POG) Remaining After Timber Harvest on National Forest System Lands Within the Woodpecker Project Area

	Acres of POG Existing in 1954	Acres of POG Harvested this Project ¹	Acres of POG Remaining After Harvest ²	Percent of 1954 POG Remaining After Harvest
Alt. 1	16,630	0	14,250	85.7
Alt. 2	16,630	430	13,820	83.3
Alt. 3	16,630	230	14,020	84.3
Alt. 4	16,630	330	13,920	83.7
Alt. 5	16,630	1,080	13,170	79.2
Alt. 6	16,630	400	13,850	83.3

¹ Includes clearcuts, 20-30 percent retention units, and harvested patches from group selection units.

² Includes low, medium, and high volume strata. Old-growth that is partially harvested but would retain over 50 percent of the stand and retain old-growth characteristics are included in these numbers.

Old-Growth Habitat Reserve Strategy

The old-growth habitat reserve strategy consists of a network of small, medium, and large old-growth habitat reserves and other non-development LUDs. Mitkof Island lies between the large old-growth habitat reserves of the Petersburg Creek - Duncan Salt Chuck Wilderness (#23) and the Stikine - LeConte Wilderness (#63). Two medium old-growth habitat reserves are located on Mitkof Island. These are the Three Lakes - Dry Strait Medium Old-growth Habitat Reserve (#67) on the east side of the island, and the Blind Slough Medium Old-growth Habitat Reserve (#68), which lies at the north boundary of the Woodpecker Project Area. A medium old-growth habitat reserve (# 69) is also located at the southern tip of the Lindenberg Peninsula on Kupreanof Island, across the Wrangell Narrows.

Within the Woodpecker Project Area, there are currently three small old-growth habitat reserves identified by the Forest Plan. The Wrangell Narrows Small Old-growth Habitat Reserve is located in VCU 448. The Woodpecker Cove Small Old-growth Habitat Reserve and the South Blind Slough Small Old-growth Habitat Reserve are in VCU 452.

The Old-growth Habitat LUD provides for further evaluation and possible adjustment of the location of the small old-growth habitat reserves during project analysis. Any modification to a land use designation, including a small change to an old-growth habitat reserve, requires an amendment to

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the Forest Plan. The amendment may be considered significant or non-significant, as determined for this project by the Forest Supervisor.

Analysis and Design Options for Small Old-growth Habitat Reserves in the Woodpecker Project Area

The Forest Plan Record of Decision recognized that small old-growth habitat reserves identified in the Forest Plan received differing amounts of field verification and integration of site-specific information during the Forest Plan analysis. The Forest Plan provides for further evaluation and possible adjustment of the size, spacing, and habitat composition of small old-growth habitat reserves during project analysis. Any adjustment to a small old-growth reserve that would modify a Forest Plan LUD requires an amendment to the Forest Plan.

The original small old-growth habitat reserves for Mitkof island were designed in 1995 as part of the Mitkof Landscape Design and later incorporated into the Forest Plan. Since 1995 when the original reserves were designed, several standards and guidelines were added to the Forest Plan. These include the 1,000-foot beach and estuary buffers and the designation of islands less than 1,000 acres as Semi-remote Recreation LUD.

All non-development land use designation acres are considered part of the old-growth reserve strategy and were incorporated into this analysis. These acres were compared to the total acres needed for small old-growth habitat reserves (Forest Plan FEIS, Appendix N, Appendix 1). This includes acres within the medium old-growth habitat reserves (#67 and #71) and the Blind Slough Special Interest Area.

Table 3-19 displays the total number of acres of old-growth habitat reserves, including non-development land use designation acres that function as part of old-growth habitat reserves, in VCUs 448 and 452. This includes reserves located outside the Woodpecker Project Area. Table 3-20 displays the total number of acres of productive old-growth in VCUs 448 and 452, including those stands outside the Woodpecker Project Area. The location, size, and habitat composition of these reserves were evaluated as part of project analysis, and two design alternatives to the Forest Plan design were developed. Table 3-21 displays the design options for the three small old-growth habitat reserves in the Woodpecker Project Area. Tables 3-22 and 3-23 compare the design options with the Forest Plan criteria for VCUs 448 and 452, respectively. Options 1 and 2 in Tables 3-19 through 3-23 refer to the design options for small old-growth habitat reserves discussed below. Option 1 represents the interagency collaborative biological small old-growth habitat reserve design. This design was developed by biologists

from the Forest Service, Fish and Wildlife Service, and Alaska Department of Fish and Game. Option 2 was developed by the Woodpecker Project Area Interdisciplinary Team in response to a request to meet but not exceed minimum Forest Plan requirements for small old-growth habitat reserve design.

Since none of the small old-growth habitat reserve designs affect any of the proposed activities in any of the alternatives, the selection of a small old-growth habitat reserve design option is not dependent on the selection of an alternative for the Woodpecker Project Area.

Table 3-19. Total Acres of Old-growth Habitat Reserve by VCU

VCU	Forest Plan Criteria (16% of VCU acres) ¹	Forest Plan (acres)	Option 1 (acres)	Option 2 (acres)
448	4,980	4,520 ²	4,980 ²	4,980 ²
452	4,570	6,070 ³	5,220 ⁴	4,600 ⁴

¹ Forest Plan Criteria from Appendix 1 of Appendix N of the Forest Plan FEIS.

² Includes 2,680 acres in non-development land use designations.

³ Includes 2,990 acres in non-development land use designations, and excludes about 80 acres of state-select lands.

⁴ Includes 2,990 acres in non-development land use designations.

Table 3-20. Total Acres of Productive Old-growth by VCU

VCU	Forest Plan Criteria (50% of OGR acres) ¹	Forest Plan (acres)	Option 1 (acres)	Option 2 (acres)
448	2,490	3,010 ²	3,250 ²	3,250 ²
452	2,290	3,570 ³	3,300 ⁴	2,710 ⁴

¹ Forest Plan Criteria from Appendix 1 of Appendix N of the Forest Plan FEIS.

² Includes 1,410 acres in non-development land use designations.

³ Includes 1,290 acres in non-development land use designations, and excludes about 70 acres of productive old growth on state-select lands.

⁴ Includes 1,290 acres in non-development land use designations.

Forest Plan Design VCU 448 (Figure 3-8)

The Wrangell Narrows Small Old-growth Habitat Reserve in VCU 448 meets the guideline for acres of productive old-growth forest, but is about 460 acres below the total size guideline. Even though the total size criterion is not met, this small old-growth habitat reserve contains

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valuable habitat. It is in a good location for spacing between medium and large old-growth habitat reserves and meets the objectives of a small old-growth habitat reserve.

This reserve is mostly unfragmented old-growth forest unlike the area to the east and northeast. It consists of continuous high volume old-growth forests. It is located along the eastern boundary of the Wrangell Narrows and contains moderate to high value deer winter habitat. This block of old-growth is also important for protection of scenery concerns along the Wrangell Narrows, an Alaska Marine Highway, and charter boat and small boat route.

VCU 452

VCU 452 has two small old-growth habitat reserves designated in the Forest Plan. Although the preferred allocation is for one contiguous small old-growth habitat reserve in a VCU, two small old-growth habitat reserves may be designated within a VCU. Each of these must have a minimum of 400 acres of productive old-growth forest, though 800 acres is the recommended amount. The small reserves are connected by old-growth forest, primarily beach fringe, on state land. According to the state's Central/Southern Southeast Area Plan (November 2000), timber harvest will not be allowed south of Road 6245 and 100 feet upslope (north) from the road. Small timber sales using salvage and selective harvest methods are being considered for the rest of this state parcel.

Within VCU 452, the Woodpecker Cove Small Old-growth Habitat Reserve and the South Blind Slough Small Old-growth Habitat Reserve, when combined, exceed the Forest Plan total size criterion by 1,500 acres. The amount of productive old-growth forest is 1,280 acres beyond the minimum needed. The Forest Plan analysis inadvertently included about 80 acres that had been transferred to the State of Alaska within the Woodpecker Cove Small Old-growth Habitat Reserve. These acres were not used in the project-level analysis.

Option 1 - Interagency Collaborative Biological Old- growth Habitat Reserve Design (Figure 3-9)

The Forest Service works with other federal and state agencies on interagency reviews of small old-growth habitat reserves where new projects are planned. Biologists from the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service, and the USDA Forest Service developed a collaborative biological recommendation (Figure 3-9) for the placement of small old-growth habitat reserves within the Woodpecker Project Area.

VCU 448

The Wrangell Narrows Small Old-growth Habitat Reserve in VCU 448 was enlarged by 460 acres to meet the minimum size guideline in the Forest Plan, Appendix K.

A block of old-growth forest facing the Wrangell Narrows to the north of the Forest Plan small old-growth habitat reserve was added, connecting the existing block to old-growth on state lands. This block of old-growth forest on state land is proposed to be managed for wildlife habitat, dispersed recreation, and scenic qualities as part of the State of Alaska's Central/Southern Southeast Area Plan (November 2000). This block of old-growth forest also contains a Class I stream.

An additional block of old-growth/muskeg mosaic was added just north of Wolf Track Lake. This area is used by deer and moose and contains wetlands and small ponds important for other wildlife species.

VCU 452

VCU 452 retains the two small old-growth habitat reserves designated in the Forest Plan with modifications. These are connected by old-growth forest, primarily beach fringe, on State of Alaska land. According to the state's Central/Southern Southeast Area Plan (November, 2000), timber harvest will not be allowed south of Road 6245 and 100 feet upslope (north) from the road. Small timber sales using salvage and selective harvest methods are being considered for the rest of this state parcel.

In VCU 452, the Woodpecker Cove Small Old-growth Habitat Reserve was expanded to the west to connect with the beach-fringe forest that connects to the Wrangell Narrows Small Old-growth Habitat Reserve, and to include more high-value deer winter habitat. Most of the additional old-growth added is not suitable for timber production because of the steep slopes.

Because the Woodpecker Cove Small Old-growth Habitat Reserve met the Forest Plan guideline for total acres and productive old-growth acres for VCU 452, the South Blind Slough Small Old-growth Habitat Reserve was reduced in size to 620 acres. Of these 620 acres, about 590 acres located in the south corner of the Woodpecker Project Area are classified as high-value deer winter habitat. The interagency collaborative process retained this area in the OGR because of its value as deer winter habitat.

This design avoided most of the second-growth forest stands and the part of Road 6245 that was within the South Blind Slough Small Old-growth

3 Other Environmental Considerations

Habitat Reserve, which is consistent with Forest Plan guidelines. The area dropped from this old-growth reserve would be designated as Scenic Viewshed LUD. The islands within the Forest Plan small old-growth habitat reserve design would be designated as Semi-remote Recreation LUD. This designation is consistent with the Forest Plan for islands less than 1,000 acres.

**Option 2 – Small
Old-growth Habitat
Reserves Designed
to Meet Minimum
Forest Plan Criteria
(Figure 3-10)**

In this option (Figure 3-10), the designs for the Wrangell Narrows Small Old-growth Habitat Reserve and the Woodpecker Cove Small Old-growth Habitat Reserve are the same as Option 1.

The South Blind Slough Small Old-growth Habitat Reserve was removed in Option 2, since the Woodpecker Cove Small Old-growth Habitat Reserve meets the Forest Plan requirements for total acres and productive old-growth acres for VCU 452. This is consistent with Forest Plan objectives to have one contiguous block of old-growth forest.

VCU 448

The Wrangell Narrows Small Old-growth Habitat Reserve in VCU 448 was enlarged by 460 acres to meet the minimum size guideline in Forest Plan Appendix K. This design is the same as Option 1.

A block of old-growth forest facing the Wrangell Narrows to the north of the Forest Plan small old-growth habitat reserve was added, connecting the existing block to old-growth on state lands. This block of old-growth forest on state land is proposed to be managed for wildlife habitat, dispersed recreation, and scenic qualities as part of the State of Alaska's Central/Southern Southeast Area Plan (November 2000). This block of old-growth forest also contains a Class I stream.

An additional block of old-growth/muskeg mosaic was added just north of Wolf Track Lake. This area is used by deer and moose and contains wetlands and small ponds important for other wildlife species.

VCU 452

In VCU 452, the Woodpecker Cove Small Old-growth Habitat Reserve was expanded to the west to connect to beach-fringe forest that connected to the Wrangell Narrows Small Old-growth Habitat Reserve, and to include more high-value deer winter range. Most of the additional old-growth forest added is not suitable for timber production because of the steep slopes. Both Road 6245 and the proposed extension of Road 6282 were avoided in this design. This design is the same as Option 1.

The South Blind Slough Small Old-growth Habitat Reserve was eliminated in Option 2, since the modification of the Woodpecker Cove Small Old-growth Habitat Reserve meets the Forest Plan requirements for total acres and productive old-growth acres for VCU 452. This area would be designated as Scenic Viewshed LUD. The islands within the Forest Plan small old-growth habitat reserve design would be designated as Semi-remote Recreation LUD. This designation is consistent with the Forest Plan direction for islands less than 1,000 acres.

Table 3-21. Size of Small Old-growth Habitat Reserves in the Woodpecker Project Area

Value Comparison Unit (VCU)	Total Acres in Small Old-growth Habitat Reserves			Productive Old-growth Acres in Small Old-growth Habitat Reserves		
	Forest Plan Design	Option 1	Option 2	Forest Plan Design	Option 1	Option 2
VCU 448						
Wrangell Narrows OGR	1,840	2,300	2,300	1,600	1,840	1,840
VCU 452						
Woodpecker Cove OGR	1,280 ¹	1,610	1,610	1,130	1,420	1,420
South Blind Slough OGR	1,800	620	0	1,150	590	0
Total for VCU	3,080	2,230	1,610	2,280	2,010	1,420

¹ Does not include about 80 acres of state-selected land that was included in the Forest Plan Design.

3 Other Environmental Considerations

Table 3-22. Comparisons¹ of the Options for the Wrangell Narrows Small Old-growth Habitat Reserve Designs in VCU 448

	Forest Plan Design	Option 1	Option 2
Meets total size	No	Yes	Yes
Meets productive old-growth acres	Yes	Yes	Yes
Productive old-growth acres ²	1,600	1,840	1,840
Interior old-growth acres	1,240	1,540	1,540
Tentatively suitable forest acres	1,050	1,180	1,180
Early seral habitat acres	10	10	10
Open road miles	0	0	0
Deer winter habitat acres ³	1,260	1,420	1,420
Known or suspected goshawk nesting habitat	No	No	No
Known or suspected marbled murrelet nesting habitat	No	No	No
One of the largest remaining contiguous old-growth blocks in watershed	Yes	Yes	Yes
Under-represented plant associations ⁴	No	No	No

¹ Includes Forest Plan Appendix K Criteria

² Productive old-growth includes all timber stands classed in either low, medium, or high volume strata.

³ Habitat suitability index value ≥ 0.35 . A habitat suitability index of 1.0 is near the maximum theoretical winter density for deer.

⁴ An example of an under-represented plant association is a fen.

Table 3-23. Comparisons¹ of the Options for Small Old-growth Habitat Reserve Designs in VCU 452

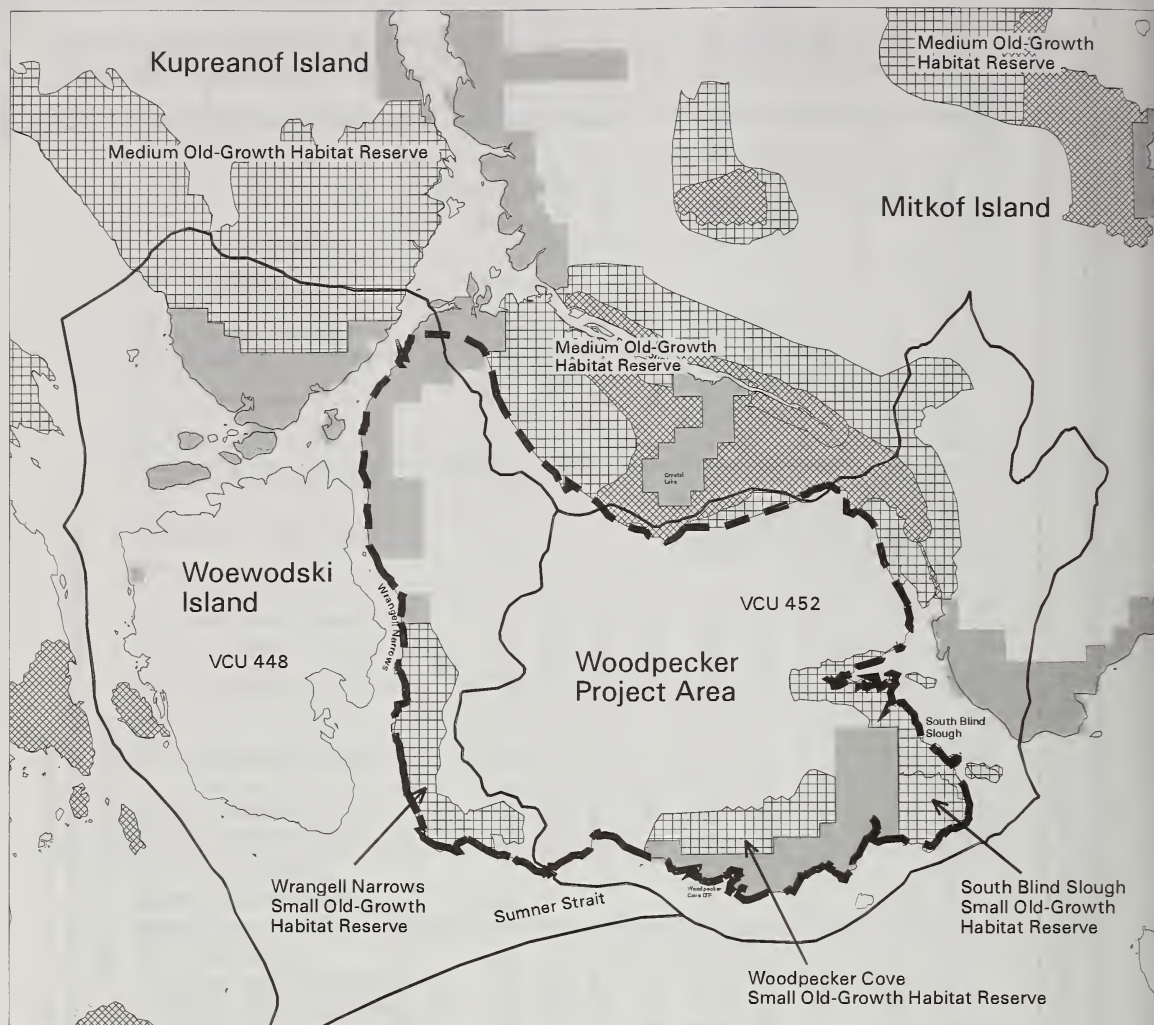
	Woodpecker Cove Small OGR ⁴			South Blind Slough Small OGR			VCU 452 OGRs Combined		
	Forest Plan Design	Option 1	Option 2	Forest Plan Design	Option 1	Option 2	Forest Plan Design	Option 1	Option 2
Meets criteria for total size	Yes, when combined with South Blind Slough OGR	Yes	Yes	Yes	Yes	This option deletes the	Yes	Yes	Yes
Meets productive old-growth acres		Yes	Yes	Yes	Yes	South Blind Slough Old-growth Habitat Reserve	Yes	Yes	Yes
Productive old-growth acres ²	1,130 acres	1,420 acres	1,420 acres	1,150 acres	590 acres		2,280 acres	2,010 acres	1,420 acres
Interior old-growth acres	1,120 acres	1,410 acres	1,410 acres	490 acres	660 acres		1,610 acres	2,070 acres	1,410 acres
Tentatively suitable forest acres	300 acres	310 acres	310 acres	440 acres	250 acres		740 acres	560 acres	310 acres
Early seral habitat acres	40 acres	40 acres	40 acres	190 acres	0 acres		230 acres	40 acres	40 acres
Open road miles	0 miles	0 miles	0 miles	1.0 miles	0 miles		1.0 miles	0 miles	0 miles
Deer winter habitat acres ³	540 acres	650 acres	650 acres	760 acres	480 acres		1,300 acres	1,130 acres	650 acres
Known or suspected goshawk nesting habitat	No	No	No	No	No		No	No	No
Known or suspected marbled murrelet nesting habitat	Yes	Yes	Yes	No	No		Yes	Yes	Yes
One of the largest remaining contiguous old-growth blocks in the watershed	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Under-represented plant associations	No	No	No	No	No		No	No	No






¹ Includes Forest Plan Appendix K Criteria

² Productive old-growth includes all timber stands classed in either low, medium, or high volume strata.

³ Habitat suitability index value ≥ 0.35 . A habitat suitability index of 1.0 is near the maximum theoretical winter density for deer.

⁴ Does not include about 80 acres of state-selected land that was included in the Forest Plan Design.



-  NON-NATIONAL FOREST
-  NON DEVELOPMENT LUDS
-  OLD-GROWTH HABITAT RESERVES
-  PROJECT AREA BOUNDARY
-  VCU BOUNDARY

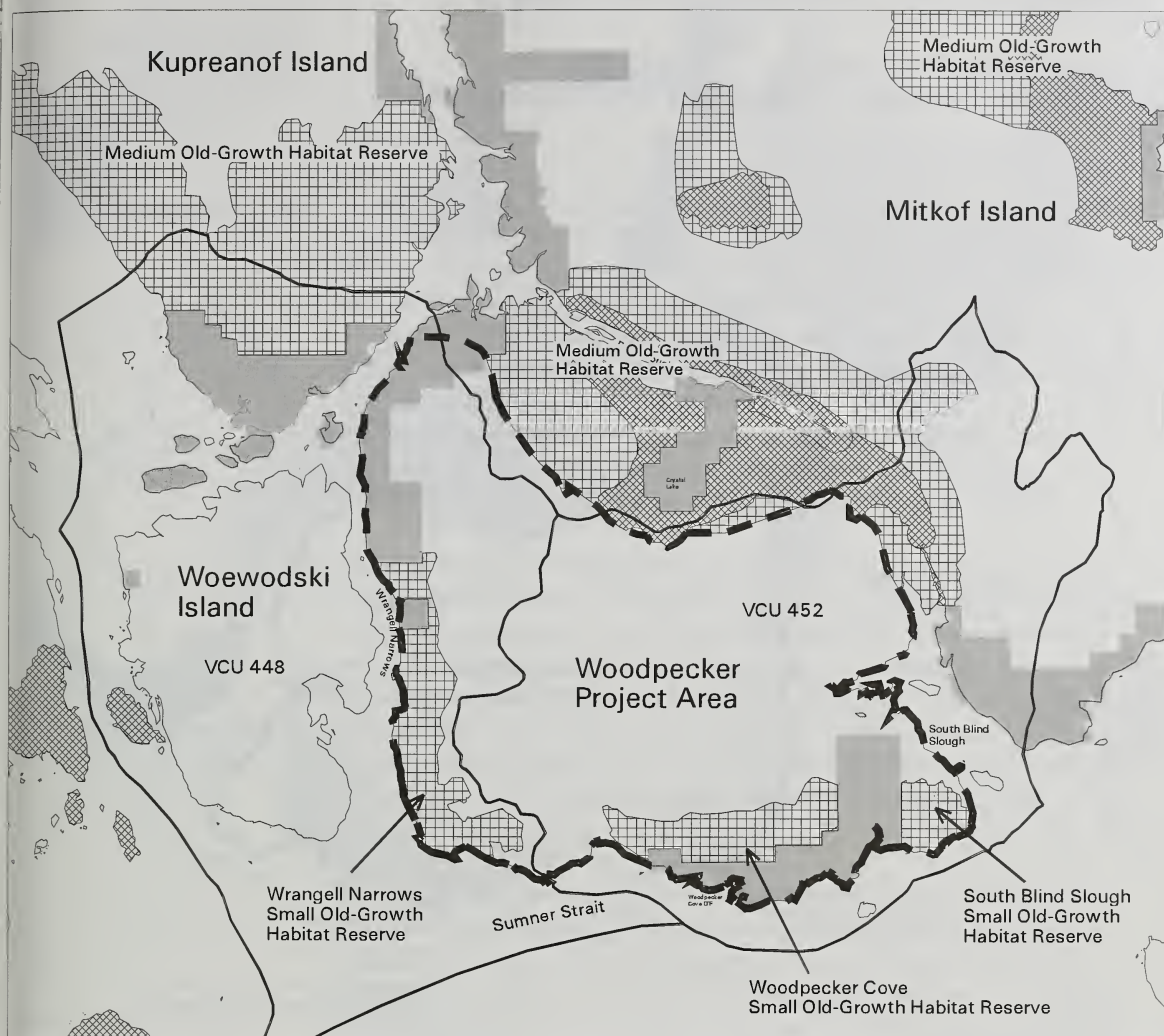
Existing Forest Plan Design Woodpecker Project Area Small Old-Growth Habitat Reserves








Figure 3-8

0 13763 27526

Scale is 1 inch = 13763 feet

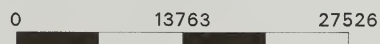


-  NON-NATIONAL FOREST
-  NON DEVELOPMENT LUDS
-  OLD-GROWTH HABITAT RESERVES
-  PROJECT AREA BOUNDARY
-  VCU BOUNDARY

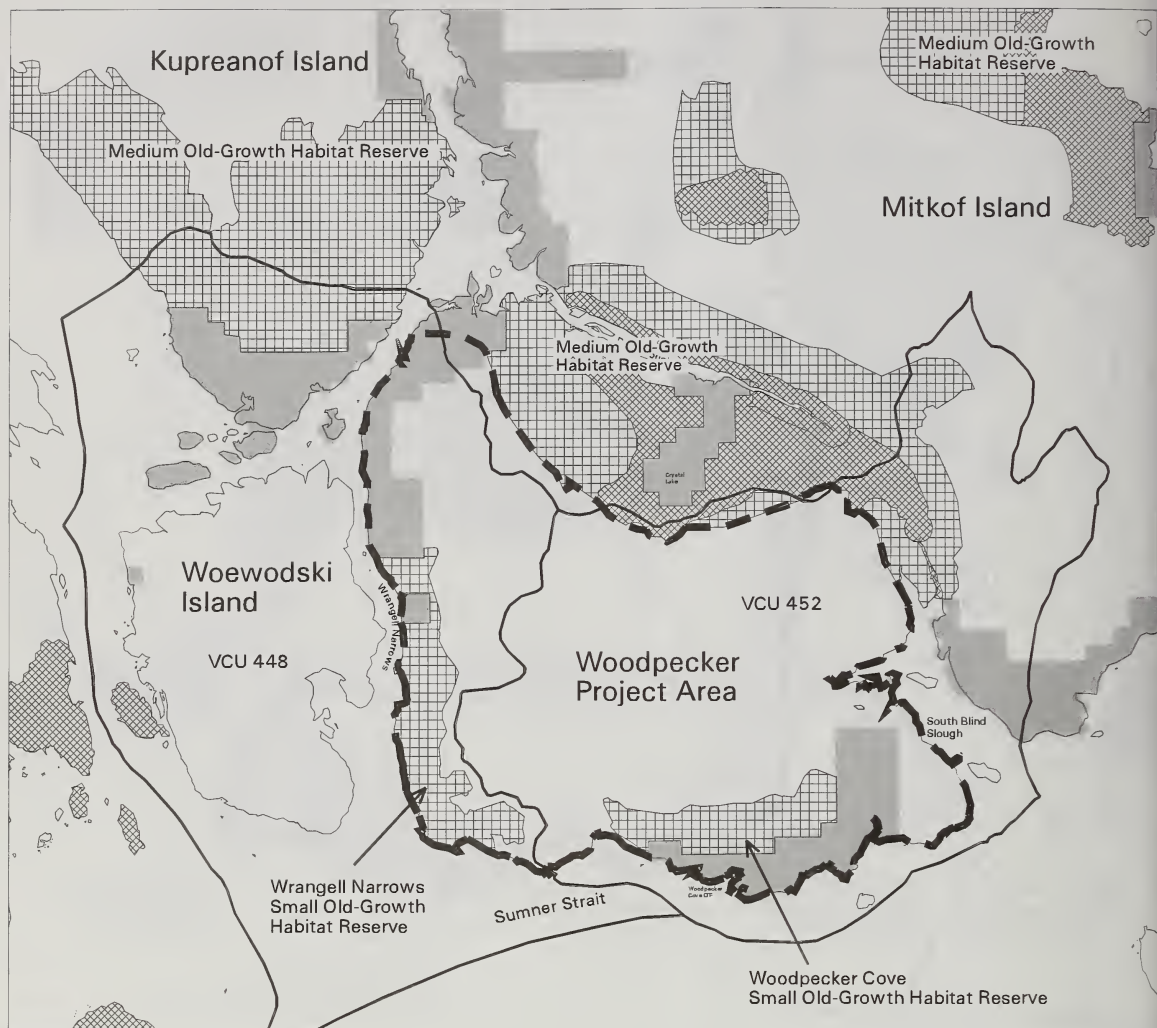
Interagency Collaborative Design Woodpecker Project Area Small Old-Growth Habitat Reserves Option 1








Figure 3-9



Scale is 1 inch = 13763 feet

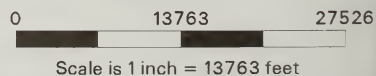


-  NON-NATIONAL FOREST
-  NON DEVELOPMENT LUDS
-  OLD-GROWTH HABITAT RESERVES
-  PROJECT AREA BOUNDARY
-  VCU BOUNDARY

Forest Plan Criteria Design Woodpecker Project Area Small Old-Growth Habitat Reserves Option 2



Figure 3-10



Habitat Connectivity Between Old-growth Habitat Reserves

Another aspect of the conservation biology strategy is to provide habitat connectivity between large and medium old-growth habitat reserves. Habitat connectivity refers to a continuous strip of older forest between each reserve so that species can readily travel between reserves. Productive old-growth forests occurring within other features of the Forest Plan reserve strategy, such as beach fringe and riparian buffers, contribute to overall landscape connectivity. Part of the importance of the small old-growth habitat reserves is to maintain areas of habitat between the larger old-growth habitat reserves. For this reason, the placement of the small old-growth habitat reserves is important.

In the Woodpecker Project Area, connectivity is currently provided around the south end of the island by the three small old-growth habitat reserves, maintaining a wider than usual beach fringe area with the exception of state land and managed stands. The State of Alaska has published its Central/Southern Southeast Area Plan, which includes the Woodpecker Project Area. The management of state lands includes managing the coastal hillsides near Woodpecker Cove and the Wrangell Narrows for wildlife habitat, which would help maintain forest connectivity.

The two design options for the Wrangell Narrows Small Old-growth Habitat Reserve enlarged the reserve around an existing clearcut on private land, which would help maintain connectivity. This would connect with old-growth forest on the state lands adjacent to the Blind Slough Medium Old-growth Habitat Reserve. These small old-growth habitat reserves, combined with the non-development land use designations, provides connectivity between the Blind Slough Medium Old-growth Habitat Reserve and the Three Lakes Medium Old-growth Habitat Reserve. This connectivity across Mitkof Island provides links to the mainland, a large old-growth habitat reserve (Stikine-LeConte Wilderness) and Woewodski and Kupreanof Islands to the west.

Another habitat connectivity route will be maintained by the riparian buffers along the drainage of Watershed #2 (ADFG # 108-30-10200) to the shoreline of Wrangell Narrows through the forested wetland/muskeg mosaic. A habitat connectivity route was maintained between the Woodpecker Cove Small Old-growth Habitat Reserve and the beach fringe along South Blind Slough through old-growth habitat around state land. Harvest treatments for Units 109 and 110 were designed to maintain enough old-growth forest to provide connectivity within these units.

3 Other Environmental Considerations

Old-growth Habitat Matrix Strategy

The idea of an old-growth matrix strategy using an extended rotation was incorporated into the Forest Plan analysis. In general, the interagency expert panel of research scientists that evaluated the effects on old-growth forest rated the Forest Plan alternatives with extended rotations and alternative-to-clearcutting harvest methods higher for old-growth connectivity, process and function than the old-growth habitat reserve strategy. The reserve strategy that was adopted rated higher on abundance and distribution of old-growth forests. The combination of these two strategies increases the likelihood that all aspects of old-growth habitat are maintained.

A 200-year extended rotation was used for all proposed timber harvest units in the Woodpecker Project Area to address deer and marten habitat capability and scenery concerns. This extended rotation, combined with partial harvest treatments, will also help address the concerns of fragmentation of old-growth habitat, and improve the connectivity already provided by riparian, beach, and estuary buffers and the small old-growth habitat reserves.

Threatened, Endangered, and Sensitive Species

Federally listed threatened and endangered species are those plant and animal species formally listed by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service under authority of the Endangered Species Act of 1973, as amended. Under the Endangered Species Act, an endangered species is defined as one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as one that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

The Regional Forester of the USDA Forest Service has the authority to designate species as "sensitive." Sensitive species are those plant and animal species for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

Information on threatened, endangered, and sensitive species distributions and occurrences in the Woodpecker Project Area was obtained from agency contacts, a review of the available literature on these species in Southeast Alaska, and field review by interdisciplinary survey teams.

Endangered and Threatened Wildlife

The Forest Service consulted with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) as part of this analysis. There are no terrestrial species listed by the USFWS as threatened or endangered that are known to occur within the Woodpecker Project Area. The humpback whale, which returns to feed in Alaska waters during the summer, and the Snake River sockeye salmon, which may occur in the outer waters of the Alexander Archipelago, are listed as endangered by NMFS. Only the humpback whale is known to occur in the vicinity of Mitkof Island. The Northern (Steller) sea lion, the Snake River spring/summer chinook salmon, and the Snake River fall chinook salmon are listed as threatened species by NMFS. There is no critical habitat for these species within or near the Woodpecker Project Area.

No federally listed threatened or endangered species will be adversely affected by the proposed actions. The Forest Service has prepared a complete Biological Assessment for these species. This assessment was sent along with a formal request for consultation to NMFS, which in turn prepared a Biological Opinion on the effects of this project on federally listed threatened or endangered species. The Biological Opinion is available in the Woodpecker Project Area planning record.

Sensitive Wildlife

The northern goshawk, osprey, Peale's peregrine falcon, and trumpeter swan are sensitive species for the Tongass National Forest that may occur in the Woodpecker Project Area. The Forest Plan provides standards and guidelines for protection of these species. If sensitive species' nests are located, the Forest Plan standards and guidelines will be implemented. No Alaska Region sensitive species will be adversely affected by the proposed actions. More information is in the Biological Evaluation in the Planning Record.

Northern goshawk

The Northern goshawk is a raven-sized raptor associated with forests having tall, dense canopies. These features allow goshawks to hunt beneath the canopy. Goshawks typically forage over a range of 6,000 to 8,000 acres (Iverson, 1996). Eighty-one percent of the confirmed and probable goshawk nest sites in Southeast Alaska are south of Frederick Sound (USDA Forest Service, 1991).

Goshawk field surveys were completed in 1996, 1997, 1998, and 1999, following Forest-wide protocols for the northern goshawk. No goshawk nests have been located in the Woodpecker Project Area.

3 Other Environmental Considerations

Osprey

Ospreys are rare in central Southeast Alaska, which may represent the periphery of the species' range. A total of 16 osprey nest sites have been documented in Southeast Alaska. Fifteen have been located in the area around Petersburg and one has been located in the Ketchikan area (Blatt, 1995).

Osprey nests are generally located in the hemlock/spruce forest type, usually near lakes, streams, beaver ponds, coastal beaches or large estuaries. Riparian standards and guidelines and beach buffers protect or maintain this habitat. Ospreys generally nest in broken-off snags or large green trees.

There are no known osprey nests in the Woodpecker Project Area. Forest-wide standards and guidelines provide for protection of osprey habitat when a nest is found. Implementation of these standards and guidelines is expected to prevent any adverse effects on osprey.

Peale's peregrine falcon

Thirty-six Peale's peregrine falcon nests have been located in Southeast Alaska, 32 of which are on the Tongass National Forest. The nests of this falcon subspecies have been located primarily along cliffs facing the open ocean and near large seabird colonies.

No Peale's peregrine falcon nests have been reported along the inside waters adjacent to or within the Woodpecker Project Area. This falcon may migrate through the project area. Beach and estuarine buffers should minimize disturbances to habitats that are most frequently used during migration.

Forest-wide standards and guidelines for the Peale's peregrine falcon, seabird rookeries and waterfowl and shorebird habitats will maintain foraging habitat for the Peale's peregrine falcon. No impacts to this subspecies are expected in any of the alternatives. If a Peale's peregrine falcon nest is located, Forest Plan standards and guidelines will be implemented.

Trumpeter Swan

Numerous trumpeter swans from other parts of Alaska migrate through Southeast Alaska, and some winter in ice-free areas throughout Southeast Alaska.

During peak migrations, up to 150 trumpeter swans at a time have been observed resting at Blind Slough on Mitkof Island. Up to 75 trumpeter swans winter at Blind Slough. This population is separated from the Woodpecker Project Area by Crystal Mountain, and will not be affected by any of the action alternatives. The Blind Slough area has been designated a Special Interest Area in the Forest Plan, in part due to the presence of this trumpeter swan population.

Sensitive Plants Eighteen plant species are designated as Sensitive for the Alaska Region. Twelve sensitive plant species are known or suspected to occur on the Petersburg Ranger District (Table 3-24). The species known to occur on the Petersburg Ranger District are:

- Wright filmy fern (*Hymenophyllum wrightii*),
- Davy mannagrass (*Glyceria leptostachya*), and
- Loose-flowered bluegrass (*Poa laxiflora*).

Wright filmy fern has been found at only two locations on Mitkof Island on moist, shady rock ledges, both outside the Woodpecker Project Area. Davy mannagrass has been found on Mitkof Island at several locations and is common on disturbed wet sites in and around Petersburg. Loose-flowered bluegrass has been found on the mainland, and on Kuiu and Kupreanof islands. Another nine sensitive plant species are suspected to occur on the Petersburg Ranger District, but have not been located.

Sensitive plant surveys were conducted in the Woodpecker Project Area in the most likely habitats. Davy mannagrass was found during a survey in 1995 but has not been observed since. The documented occurrence of this species is located along Road 6245. This area will be rechecked before any ground disturbance occurs.

No other Region 10 sensitive plant species are known to occur in the Woodpecker Project Area, and none were found during field surveys. All of the sensitive plant species with the potential to occur in the project area would occupy habitats that most timber harvest and road construction activities would avoid. These habitats include wet, boggy, or open meadow areas, rocky slopes or cliff areas, stream and lake margins, and shorelines. Very wet areas and cliffs were generally excluded from harvest units and riparian management areas are prescribed along all Class I, II, and III streams and lakes. Therefore, although undetected individual sensitive plants could be affected, no significant effects are expected for the populations of any of the species.

If sensitive plants are found within or adjacent to areas where activities are proposed, appropriate mitigation measures will be taken.

3 Other Environmental Considerations

Table 3-24. Current Alaska Region Sensitive Plant Species That Are Known or Suspected to Occur on the Petersburg Ranger District

Common Name	Scientific Name
Goose-grass sedge	<i>Carex lenticularis</i> var. <i>dolia</i>
Edible thistle	<i>Cirsium edule</i>
Davy mannagrass	<i>Glyceria leptostachya</i>
Wright filmy fern	<i>Hymenophyllum wrightii</i>
Truncate quillwort	<i>Isoetes truncata</i>
Calder lovage	<i>Ligusticum calderi</i>
Bog orchid	<i>Platanthera gracilis</i>
Loose-flowered bluegrass	<i>Poa laxiflora</i>
Kamchatka alkali grass	<i>Puccinellia kamtschatica</i>
Unalaska mist-maid	<i>Romanzoffia unalaschcensis</i>
Queen Charlotte butterweed	<i>Senecio moresbiensis</i>
Circumpolar starwort	<i>Stellaria ruscifolia</i> spp. <i>aleutica</i>

Cumulative Effects

Cumulative effects are the result of changes in the environment caused by the interaction of natural ecosystem processes and the effects of multiple management actions. Wildlife habitat and associated populations of threatened, endangered, and sensitive species may be influenced by the result of multiple entries to harvest timber within the project area, and the combined effects of habitat loss in adjacent areas. Threatened, endangered, or sensitive species are unlikely to experience long-term cumulative effects because of their limited use of the area or because their habitats are unaffected or minimally affect by timber harvest.

The Forest Plan includes an old-growth habitat strategy that is intended to maintain well-distributed viable wildlife populations across the Tongass. It is designed to reduce fragmentation of old-growth habitat and has been developed through careful analysis and integration of the best scientific information available on the subject. See the Biodiversity section of this chapter for more discussion of this strategy.

Wildlife

Wildlife Habitats

Habitat refers to the type of environment in which a species lives and thrives. Attributes of habitat include snow levels, elevation, topographic position, and type of vegetation community. A species may occupy a range of different habitats, or more than one distinctive kind of habitat in different seasons. Habitats that occur within the Woodpecker Project Area include old-growth forest, second-growth forest, alpine and sub-alpine, wetland, beach and estuary, deciduous forest, and riparian. Many of these overlap. Beach fringe may include old-growth forest, second-growth forest, and wetland habitats. A description of these habitats is found in the Biodiversity section of this chapter.

Management Indicator Species

Management Indicator Species are species whose response to land management activities can be used to predict the likely response of a wide range of species with similar habitat requirements. Through this concept, several species can be used to determine the effects of all species within the project area.

The Forest Plan identified thirteen Management Indicator Species for the Tongass National Forest. Some of these species do not occur within the Woodpecker Project Area. Other species are hard to monitor, will not be affected by the proposed activities, will have their habitat needs protected by standards and guidelines, or can be represented by other Management Indicator Species. Table 3-25 displays the three Management Indicator Species for the Woodpecker Project Area.

Table 3-25. Management Indicator Species for the Woodpecker Project Area

Species	Rationale for selection
Sitka black-tailed deer	Needs low-elevation old-growth during the winter
Marten	Needs low elevation, high volume old-growth
Wolf	Predator tied to a prey base

3 Other Environmental Considerations

Sitka Black-tailed Deer

This species is discussed in the Deer Hunting, Subsistence, and Wolf sections of this chapter.

American Marten

The marten is a member of the weasel family that depends on mature forests with snags and downed logs for denning and prey habitat. The species is native to Kupreanof, Mitkof and Kuiu islands, but was introduced to other Southeast Alaska islands (Flynn and Blundell, 1992). Beach fringe and riparian areas are also important for these animals (Soutiere, 1979). Marten populations can be sensitive to over-exploitation by trapping.

The Woodpecker Project Area is in the Mitkof/Kupreanof Biogeographic Province. This was identified in the Forest Plan as a high-risk biogeographic province for maintaining a well-distributed population of marten and other old-growth associated species where past timber harvest has established a major component of young conifer stands.

The Forest Plan has developed specific standards and guidelines to be applied to high-risk biogeographic provinces. These standards and guidelines for areas where less than 33 percent of the old-growth forest has been harvested will be applied in all units that contain high value marten habitat. High value marten habitat includes stands below 1,500 feet elevation in high volume productive old-growth timber strata, as identified in the latest version of the Interagency Marten Habitat Capability model (USDA Forest Service, 1991). This strategy includes the retention of at least seven large trees and the retention of 20-30 percent of the canopy cover. The details of the retention strategy and the harvest units to which it applies are identified in Appendix B, Activity Cards. Figure 3-11 displays the areas where Marten Standards and Guidelines apply within the Woodpecker Project Area.

Mitkof Island Marten Study

The Forest Service, in cooperation with the Alaska Department of Fish and Game, is currently conducting a study of marten on Mitkof Island. This study will develop information about marten locations on Mitkof Island that will be used to evaluate the marten habitat model and the accuracy of the current and proposed habitat classifications for predicting marten winter habitat use. Some of the objectives of this study are:

- Determine an index of winter habitat preference for marten on Mitkof Island using within-home-range telemetry relocations.
- Assess the ability of the marten model to predict marten winter habitat capability by comparing the habitat preference indices derived from telemetry to the mapped values derived from the model.

- Determine the accuracy of five existing and proposed vegetation systems for mapping marten habitat by comparing marten winter habitat maps of Mitkof Island to the habitat preference indices derived from telemetry relocations.
- Statistically test various geographic, climatic, and vegetative parameters to determine which variables most accurately predict marten winter habitat selection.

Effects on Marten

Marten represent species that need habitat in higher-volume old-growth forests and that are negatively affected by the presence of clearcuts, pole timber, and young sawtimber. Marten are one of the species that will benefit from the establishment of well-distributed old-growth reserves in the Forest Plan. The estimated marten habitat capability within the Woodpecker Project Area in 1954 was 72 animals. The model for marten (USDA Forest Service, 1991) suggests that marten habitat has been reduced by about 12 percent since 1954.

The Forest Plan marten model assumes that all harvest units will be cut using the traditional clearcut method. We used this model as a worst-case scenario and then recalculated the results using various assumptions, which are discussed in the following paragraph. The result is not an actual population number but a theoretical long-term carrying capacity given normal winter conditions. The number is useful for purposes of comparison only, and is not intended to estimate actual marten abundance.

Two-acre openings created by partial harvest are assumed to affect marten habitat in a manner similar to clearcutting. If 25 percent of a unit were harvested in patches, the harvested 25 percent would have marten habitat values similar to a clearcut and the other 75 percent of the unit would have the stand's original values. Removal of 25 percent of the trees dispersed throughout the unit would initially lower the volume of the existing stand. For example, a high volume stand would initially become a medium volume stand. The stand would return to a high volume stand within 40 years. Units with partial retention of 20-30 percent were considered to provide the same habitat as clearcuts for use in the model, even though some large trees will remain. These large trees meet, and in most cases exceed, the Forest Plan standards and guidelines for marten. The results of the model are shown in Table 3-26. This model estimates that marten habitat carrying capacity in the Woodpecker Project Area would be reduced immediately after timber harvest by about one to three marten.

3 Other Environmental Considerations

The impacts of the alternatives are evaluated from the changes in long-term carrying capacity. Long-term marten carrying capacity will decline by 1.7 percent for Alternative 1, the No-Action Alternative. This decline in habitat capability results from the closure of the canopy of second-growth stands. As the canopy closes, there is less food supply for small mammals and birds, which are prey species for marten. As the trees begin to bear cones, this trend may reverse as more squirrels populate the area. The other alternatives will cause a decrease of an additional one to three percent of habitat carrying capacity compared to Alternative 1 (No-Action). This is a habitat capability reduction ranging from less than one marten in Alternative 3 to about two marten in Alternative 5. We expect the marten habitat to be 87 percent of the 1954 value in Alternative 1 in 2043, and to range from about 84 to 86 percent of the 1954 value in the action alternatives. (For the purposes of alternative comparison only, the model assumes that all harvest will occur by 2003).

Table 3- 26. Estimated Changes in Marten Carrying Capacity

Alternative	Year	Percent Change from 1954		Estimated Marten Carrying Capacity (# of animals)
		Alternative Change	Cumulative Change ¹	
1	1954	-	-	72
	2003 ²	0%	-11.8%	64
	2043 ³	-1.7% ⁴	-13.5%	62
2	2003 ²	-1.8%	-13.6%	62
	2043 ³	-3.2%	-15.0%	61
3	2003 ²	-1.1%	-12.9%	63
	2043 ³	-2.5%	-14.3%	62
4	2003 ²	-2.4%	-14.2%	62
	2043 ³	-2.9%	-14.7%	61
5	2003 ²	-3.3%	-15.1%	61
	2043 ³	-4.7%	-16.5%	60
6	2003 ²	-1.9%	-13.7%	62
	2043 ³	-3.1%	-14.9%	61

¹ Cumulative change is the percent carrying capacity change from 1954, -11.8%, added to the percent change for each alternative.

² For the purposes of this analysis, it is assumed the timber harvest proposed in the alternatives will occur by 2003.

³ The marten model estimates that canopy closure in the second-growth stands will occur by approximately 40 years after harvest.

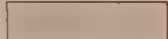
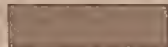


⁴ The decrease in marten carrying capacity for the No-Action Alternative (Alt. 1) is due to canopy closure of the second-growth forest.



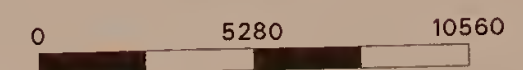
Woodpecker Project Area
Figure 3-11

Martin Habitat Suitability Index

LEGEND

-  Lakes/Saltwater
-  Areas That Require Forest Plan Marten Standards and Guidelines (HSI > .9)
-  Non-National Forest System Lands
-  Project Area Boundary

Chapter 3-105



Scale is 1 inch = 5280 feet





Alexander Archipelago Wolf

The Alexander Archipelago wolf is a distinct subspecies of gray wolf (Person, 1996). The subspecies' range in Southeast Alaska includes the islands south of Frederick Sound and the narrow mainland strip west of the Coast Mountains extending from Dixon Entrance north to Yakutat Bay (Hall, 1981). This range is almost entirely within the boundaries of the Tongass National Forest. The estimated total population of wolves in the Tongass National Forest is about 950 individuals (Kirchhoff, 1994), distributed among approximately 85 packs (Morgan, 1990). The average pack size is five or six individuals (Kirchhoff, 1994).

In Southeast Alaska, wolves are found in all habitat types but seem to prefer the naturally occurring mosaics of forest and muskeg that provide an abundance of prey. The primary prey species for wolves in Southeast Alaska is the Sitka black-tailed deer. See the Deer Hunting (Issue 1) section of this chapter for the discussion on deer populations. In areas where deer are less plentiful, wolves' diets may include other important prey species such as moose, salmon, black bear, beaver and other rodents, grouse, and waterfowl.

Census and harvest data indicate that both wolf and deer populations in Southeast Alaska declined during the 1970s after peaking in the mid-1960s. Recent surveys have suggested that wolf populations are increasing on portions of Mitkof, Kupreanof, and Revillagigedo islands, probably as a response to locally increasing deer populations (ADF&G, unpublished data, as cited by Kirchhoff, 1991).

Forest Plan standards and guidelines provide a high likelihood of sustaining well-distributed wolf populations on the Tongass National Forest. These guidelines include:

- Where road access has been determined to significantly contribute to wolf mortality, densities of 0.7 to 1.0 miles per square mile of landscape or less may be necessary to reduce mortality to sustainable levels. Effective road closure prohibits motorized traffic (e.g., removing culverts or bridges versus only signing). Off-highway Vehicles travel restrictions may also be necessary.
- Provide sufficient deer habitat capability to first maintain sustainable wolf populations, and then to consider meeting estimated human deer harvest demands. This is generally considered 13-deer/square mile in biogeographic provinces where deer are the primary prey of wolves. Use the most recent version of the interagency deer habitat capability model and field validation of local deer populations to estimate deer habitat capability.
- Design management activities to avoid abandonment of wolf dens.

3 Other Environmental Considerations

Mitkof Island has a stable and probably increasing wolf population. Woewodski and Kupreanof Islands also have good populations of wolves and there is active migration between these islands and Mitkof Island (Rich Lowell, personal communication). Part of the Forest Plan standards and guidelines involves working with the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service to examine the relationship between wolf mortality, human access, and harvest by hunters and trappers. Wolf mortality on Mitkof Island does not appear to be excessive, nor is it entirely a function of open road density. The trappers on Mitkof Island primarily use saltwater access to establish their traplines. Wolf mortality from hunting is incidental and is based on opportunistic sightings of wolves while hunting other wildlife. Using information from the Petersburg office of the Alaska Department of Fish and Game, we determined that about seven wolves per year have been harvested by an average of four trappers/hunters on Mitkof Island. We estimated that 22 percent of the harvest occurred within the Woodpecker Project Area (See Table 3-49).

The Mitkof Island Road Analysis determined that keeping the current amount of open roads was beneficial for most resources. Therefore, it is unlikely that there will be a wolf mortality problem associated with roads in the future. A discussion of Road Maintenance Objectives occurs in the Road Cards in Appendix B of this document. Road density on Mitkof Island is currently 0.68 miles per square mile.

Brown Bear

Although the brown bear is a Management Indicator Species for the Forest Plan, it was not used as such for analysis of the Woodpecker Project Area. Brown bears are not resident to Mitkof Island, but individuals may occasionally cross Dry Strait between Mitkof Island and the mainland. Several sightings of brown bear on Mitkof Island have occurred over the years, especially on the grassy area of South Blind Slough, just to the northeast of the Woodpecker Project Area. During the harvest of the Sumner Salvage Timber Sale in 1995, there were several reports of brown bear sightings by loggers. During the summer of 1999, a visitor to the Ohmer Creek campground reported seeing a brown bear on Road 6245.

According to the Alaska Department of Fish and Game, the only verified brown bear encounter on Mitkof Island occurred in 1998, when a moose hunter shot a brown bear on Road 6281. This bear may have been an elusive resident or it may have traveled from the mainland over Dry Strait at low tide. There are no known important brown bear foraging areas within the Woodpecker Project Area.

Endemic Mammals

Forest Plan standards and guidelines for endemic terrestrial mammals require surveys on islands smaller than 50,000 acres in size. Since Mitkof Island is approximately 150,000 acres in size, these surveys are not required on the island. However, the Forest Service has conducted searches and small mammal trappings for endemic terrestrial mammals on Mitkof Island for several years as part of a larger study. A study is currently underway to determine the extent and genetic characteristics of the northern flying squirrel population on Mitkof Island. No terrestrial mammals are known to be endemic to Mitkof Island.

The extended 200-year harvest rotation that was used for the Woodpecker Project Area reduces viability risk to small endemic mammals by preserving dispersal opportunities, as well as preserving the quality and quantity of endemic mammal habitat in development LUDs. The old-growth habitat reserve strategy will preserve blocks of habitat that may support endemic mammals.

Because of the geographic distribution of Mitkof Island and its neighboring islands, it is unlikely that the island has an endemic terrestrial mammal population. However, continued searches through monitoring and during future project planning will follow the Forest-wide trapping protocols.

Marbled Murrelet

The marbled murrelet is a robin-sized seabird found throughout the North Pacific. The North American subspecies ranges from Alaska's Aleutian Islands to central and occasionally southern California. The marbled murrelet feeds in near-shore ocean areas, inland saltwater, and occasionally inland fresh water lakes. In the Pacific Northwest and Southeast Alaska, the bird normally nests in old-growth forests. The population of marbled murrelets in Southeast Alaska was recently estimated to be over 365,000 (DeGange, 1996).

Short-term risks to murrelet viability are difficult to assess but are likely minor. A combination of long timber harvest rotations and a habitat reserve system will most likely ensure that the habitat needs of the murrelet are met over the long term (DeGange, 1996). The beach and estuary buffers, 200-year rotation, non-development land use designations and riparian buffers will provide nesting habitat.

All action alternatives would harvest stands capable of providing nesting habitat (old-growth forest) for marbled murrelets. However, retention of large trees within most of the units would provide some nesting habitat

3 Other Environmental Considerations

after harvest. Implementation of the Forest Plan old-growth reserve strategy and Marten Standards and Guidelines, combined with the extended 200-year rotation for timber harvest in the Woodpecker Project Area, will mitigate many of the concerns about marbled murrelet populations.

One marbled murrelet fledgling was found in the Woodpecker Cove Small Old-growth Habitat Reserve during a 1999 field review. No murrelets or murrelet nests were located in or near proposed harvest units. Any nests located during field reconnaissance or unit layout would be protected by Forest Plan standards and guidelines. A 600-foot buffer is required around each known nest, with disturbance activities minimized during the nesting season, and the buffer zone would be maintained and monitored for at least two nesting seasons following discovery. If the nest remains inactive for more than two years, the buffer protection may be removed.

Great Blue Heron and Raptors

The great blue heron is at the northern edge of its range in Southeast Alaska. In more southerly climates, great blue herons nest in colonies of up to 300 or more pairs. Rookeries tend to be much smaller in Southeast Alaska.

A heron rookery containing at least nine nests was identified in the Woodpecker Project Area during a survey in July 1999. Four of these nests were occupied by juveniles at that time. The rookery was revisited in June 2000. Eight new nests were observed and evidence of successful nesting was found. An estimated 10 to 15 adults were observed. The largest rookeries previously identified in the Petersburg Ranger District contained only three nests. The Forest Plan standard and guideline of a 600-foot windfirm buffer around the nests was used to design any adjacent units. In addition, no helicopter flights will be allowed within 1,500 feet of the rookery between March 1 and July 31, if the rookery continues to remain active. No activity was observed in June 2001, but the rookery will continue to be monitored for at least two years.

Forest Service personnel have reported sightings of red-tailed hawks, sharp shinned hawks and great horned owls in the Woodpecker Project Area, but no nests had been found until a red-tailed hawk nest was found in late June 2001. A 600-foot windfirm buffer will be applied. Monitoring will continue during implementation.

Waterfowl

Several waterfowl species do occur in and around the Woodpecker Project Area. Geese, swans, and ducks migrate through the area and stop over for feeding in some of the estuarine areas surrounding the Woodpecker Project Area.

Vancouver Canada Goose

The Vancouver Canada Goose, a Forest Plan Management Indicator Species, does not have a large amount of habitat, especially habitat for nesting, within the Woodpecker Project Area. Vancouver Canada geese, goslings, and goose sign have been seen at Wolf Track Lake. One small pond near Unit 90b will be monitored for nesting and brood rearing geese or other waterfowl. If present, a 330-foot buffer between human disturbance activities and the area used by waterfowl will be applied.

Northern Flicker

The Woodpecker Project Area was named after Woodpecker Cove. Woodpecker Cove was named for the high numbers of northern flickers that were present in the area. These members of the woodpecker family have a distinctive white rump that flashes when they fly. They also have a distinctive undulating flight pattern.

The presence of these flickers may be an indication of two forest health conditions. Flickers prefer deciduous trees such as alder because of the high number of insects that prefer to live on alder, especially in the summer. Alder is an early seral species, the first to colonize a site after a disturbance. Alder has reclaimed roadbeds that were built to harvest timber in the 1970s, and areas where trees were blown down during wind storms.

The other attraction to this area for flickers may be the large number of yellow-cedar snags. These snags, the result of yellow-cedar decline, provide both homes and food for northern flickers. As cavity nesters, northern flickers drill holes into the center of dead or dying trees to provide a dry nest for their eggs and young. Dead and dying trees also attract many species of insects, especially beetles whose larvae can be found under the bark in the winter.

Direct Effects to Wildlife Species

Most effects to wildlife habitat are from modification of that habitat. Most of the modification for this project will be from timber harvest. Road access also can affect wildlife habitat by increasing human access to an area and interrupting natural corridors while creating artificial corridors. Use of a log transfer facility will also temporarily interrupt wildlife use in that area.

3 Other Environmental Considerations

Using this assumption, the more timber harvest and road construction proposed by an alternative, the more adverse affects there will be. These effects can be mitigated to a degree by the use of partial harvest rather than clearcutting, the retention of legacy trees, the 200-year rotation for timber harvest in the project area, and closing roads after harvest. Other site-specific mitigation measures for known areas of wildlife use include buffers and timing restrictions for known nests and use areas.

Increased recreation use in an area may also affect wildlife activity and displace animals at certain times of the day or for certain seasons. Better road maintenance increases more users in an area.

Alternative 1

This alternative proposes no new activities in the Woodpecker Project Area. Wildlife habitat and use are expected to remain the same as current conditions. Wildlife habitat may decline as the current second-growth stands reach canopy closure and the understory forage is shaded out. Carrying capacity for deer will be reduced by 9.6 percent or 167 animals by 2043. For marten, the carrying capacity will be reduced by 1.7 percent or 2 animals by 2043.

No effect is expected to occur to waterfowl and other birds.

Alternative 2

This alternative proposes harvest on 1,140 acres. Most of this harvest is partial harvest that would leave over 50 percent of the stand remaining. About 220 acres would create future two-aged stands by leaving 20-30 percent of the stand structure. There would be 4.8 miles of new classified road construction, with 1.8 miles left open for public use after timber harvest. Dispersed recreation sites would be created. The completion of a loop road connecting Roads 6282 and 6245 may encourage more vehicle traffic. The surface of Road 6245 would be improved for easier maintenance.

Carrying capacity for deer would be reduced by 1.5 percent or 26 animals immediately after harvest and by 11.3 percent or 197 animals by 2043. For marten, the carrying capacity would be reduced by 1.8 percent or 2 animals immediately after harvest and 3.2 percent or 3 animals by 2043. For northern flickers and other cavity nesters, there would be abundant snags left both outside and within most of the proposed units where it is safe to do so. Waterfowl areas would be maintained through beach, estuary, and riparian buffers.

Alternative 3

This alternative proposes harvest on 500 acres. Most of this harvest is partial harvest that would leave over 50 percent of the stand remaining. About 160 acres would create future two-aged stands by leaving 20-30 percent of the stand structure. There would be no new miles of classified road construction. No dispersed recreation sites are proposed and the level of road maintenance is likely to remain the same.

This alternative may have the least effect on wildlife, especially the carrying capacity for deer and marten. Carrying capacity for deer would be reduced by 0.9 percent or 15 animals immediately after harvest and by 10.5 percent or 182 animals by 2043. For marten, the carrying capacity would be reduced by 1.1 percent or 1 animal immediately after harvest and 2.5 percent or 2 animals by 2043.

For northern flickers and other cavity nesters, there would be abundant snags left both outside and within some of the proposed units. Waterfowl areas would be maintained through beach, estuary, and riparian buffers.

Alternative 4

This alternative proposes harvest on 1,850 acres. Most of this harvest is partial harvest that would leave over 50 percent of the stand remaining. About 120 acres would create future two-aged stands by leaving 20-30 percent of the stand structure. There would be no new miles of classified road construction. Dispersed recreation sites would be created. The surface of Road 6245 would be improved for easier maintenance.

Carrying capacity for deer would be reduced by 1.8 percent or 30 animals immediately after harvest and 11.2 percent or 194 animals by 2043. For marten, the carrying capacity would be reduced by 2.4 percent or 2 animals immediately after harvest and 2.9 percent or 3 animals by 2043.

For northern flickers and other cavity nesters, there would be abundant snags left both outside and within most of the proposed units. Waterfowl areas would be maintained through beach, estuary, and riparian buffers.

Alternative 5

This alternative proposes harvest on 1,730 acres. Most of this harvest is partial harvest that would leave over 50 percent of the stand remaining. About 940 acres would create future two-aged stands by leaving 20-30 percent of the stand structure. Sixty acres would be clearcut. There would be 3.5 miles of new classified road construction with one mile left open for public use after timber harvest. Dispersed recreation sites would

3 Other Environmental Considerations

be created. The surface of Road 6245 would be improved for easier maintenance.

This alternative may have the most effect on wildlife, especially the carrying capacity for deer and marten. Carrying capacity for deer would be reduced by 2.4 percent or 41 animals immediately after harvest and 12.7 percent or 221 animals by 2043. For marten, the carrying capacity would be reduced by 3.3 percent or 3 animals immediately after harvest and 4.7 percent or 4 animals by 2043.

For northern flickers and other cavity nesters, there would be abundant snags left both outside and within most of the proposed units. Waterfowl areas would be maintained through beach, estuary, and riparian buffers.

Alternative 6

This alternative proposes harvest on 1,290 acres. Most of this harvest is partial harvest that would leave over 50 percent of the stand remaining. About 240 acres would create future two-aged stands by leaving 20-30 percent of the stand structure. No acres would be clearcut. There would be 4.8 miles of new classified road construction with 1.8 miles left open for public use after timber harvest. Dispersed recreation sites would be created. The surface of Road 6245 would be improved for easier maintenance.

Carrying capacity for deer would be reduced by 3.5 percent or 40 animals immediately after harvest and 13 percent or 149 animals by 2043. For marten, the carrying capacity would be reduced by 1.9 percent or 2 animals immediately after harvest and 3.1 percent or 3 animals by 2043.

For northern flickers and other cavity nesters, there would be abundant snags left both outside and within most of the proposed units. Waterfowl areas would be maintained through beach, estuary, and riparian buffers.

Cumulative Effects to Wildlife

Past harvest has already affected the carrying capacity for both deer and marten compared to pre-industrial harvest conditions (1954). The past harvest used mostly clearcutting. As the tree canopy closes in existing second-growth stands, there is less forage available for wildlife. This accounts for the predicted future decreases in both deer and marten carrying capacity regardless of any currently proposed harvest. Thinning the second-growth stands not previously thinned (about 1,200 acres) may improve some of the habitat and delay the effects of canopy closure.

No other timber harvest on National Forest System land is currently planned within the Woodpecker Project Area. The proposed management of state lands is to use partial harvest in many areas.

Clearcut harvest would be kept to a minimum. Some areas of state land in the northwest portion of the Woodpecker Project Area have been designated for wildlife habitat. The State of Alaska has no plans to harvest timber from state land in the Woodpecker Project Area. The Forest Plan incorporated many concepts to sustain viable populations of all native and desired non-native wildlife species on the Tongass National Forest. The old-growth reserve strategy provided the basis of refugia for wildlife species throughout Southeast Alaska. The inclusion of a 200-year timber harvest rotation for many areas further strengthened the habitat, especially for deer. Many standards and guidelines were created specifically to meet the habitat requirements of selected species, such as marten, goshawk, and great blue heron.

A risk assessment panel, which conducted the analysis for the Forest Plan, also calculated the effects to wildlife populations based on the amount of timber harvest. The Forest Plan FEIS, Chapter 3 and Appendix N, display the results of the assessments.

Vegetation and Timber Resources

Introduction

The type and amount of vegetation that grows in the Woodpecker Project Area is mostly influenced by the parent material and drainage of the soil. Poorly drained soils result in the development of nonforested muskeg sites or unproductive forest stands. In general, well-drained soils result in highly productive stands of commercial timber.

Plant Communities and Cover Types

The Woodpecker Project Area is a mosaic of coniferous forests interspersed with muskeg, shrubland, alpine vegetation, and beach fringe plant communities. Forest vegetation has been categorized using the Preliminary Forest Plant Associations of the Stikine Area, Tongass National Forest (Pawuk and Kissinger, 1989), which describes potential climax plant communities that may develop over time in response to soil, climate, plant geography, and evolution. This classification system assists land managers and resource specialists in predicting the outcome of various vegetative manipulations.

Sensitive plant species that may occur in the Woodpecker Project Area typically occupy boggy areas, rocky slopes, cliffs, stream and lake margins, or disturbed areas. These areas are generally not suitable for timber harvest. Threatened, endangered and sensitive plant species are discussed in more detail in the Threatened, Endangered and Sensitive Species section of this chapter.

3 Other Environmental Considerations

Plant Associations

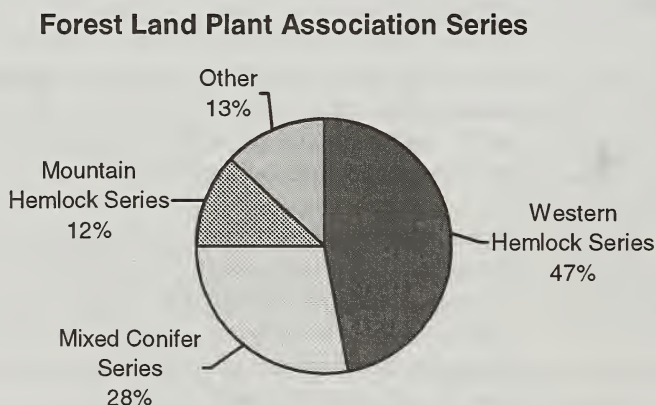
The use of plant associations is a type of vegetation classification system based on the climax plant community. Stands classified within a certain plant association are comprised of vegetation layers with similar variability in species composition and abundance. These characteristics reflect certain climatic and soil conditions of the sites. The plant associations for forest land identified in the Woodpecker Project Area are shown in Figure 3-12.

The western hemlock series has moderate productivity and generally provides a well-developed stand structure for wildlife habitat, and provides both snow intercept and browse for wildlife. The predominant species is western hemlock.

The mixed conifer series has low to very low productivity, with stunted tree heights. This series includes western hemlock, Sitka spruce and Alaska yellow-cedar. Prolific amounts of vaccinium (blueberry and huckleberry), which provide ample browse for wildlife, are produced during the spring and summer months. Snow interception is poor, with little or no forage for wildlife during winters with heavy snowfall. This association is primarily found next to muskegs.

The mountain hemlock series, which is usually found at higher elevations, has moderate productivity. It is an important summer range for wildlife species but is very poor for winter range due to extreme cold temperatures and deep snow.

Figure 3-12. Plant Associations in the Woodpecker Project Area



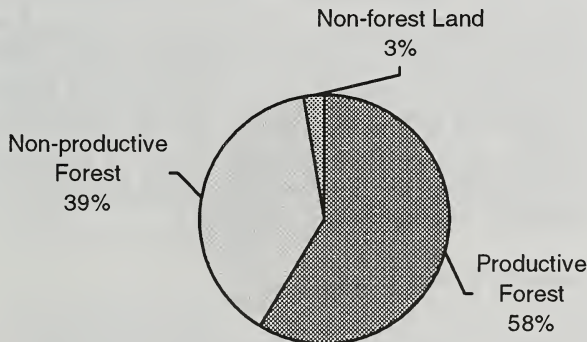
Forest Land Classification

National Forest System lands are defined by vegetative cover, soil type, and administratively designated land use. This classification scheme is intended to show the amount of land that is covered by forested vegetation with further divisions to show the amount of that land that is capable of timber production. Figure 3-13 shows the National Forest System land classifications in the Woodpecker Project Area.

Non-Forest Land

Non-forest land is defined as National Forest System land that is biologically unable to support at least a 10 percent cover of forest trees. This land includes muskegs, rock outcrops, talus slopes, alpine vegetation, and river systems among others. About three percent of the National Forest System land in the Woodpecker Project Area, or 780 acres, is classified as non-forest land.

Figure 3-13. National Forest Land Classification in the Woodpecker Project Area



Vegetation Classification	Number of acres
Productive Forest [†]	16,630
(Suitable Forest)	9,720
(Unsuitable Forest)	6,910
Non-productive Forest	11,030
Non-forested Land	780

[†] Includes managed stands

3 Other Environmental Considerations

Forest Land

Forest land refers to National Forest System land that has at least ten percent tree cover of any size, or formerly had such tree cover and is not currently developed for non-forest use. About 97 percent of the National Forest System land in the Woodpecker Project Area, or 27,690 acres, is considered forest land.

Nonproductive Forest Land

Nonproductive forest land is land that does not support enough timber volume or is not productive enough to meet the criteria for productive forest land. About 11,030 acres of the National Forest System land in the Woodpecker Project Area is considered nonproductive forest land or scrub forest.

Productive Forest Land

Productive forest land is land that is biologically capable of producing continuous crops of timber. The Forest Service has defined productive forest land as land that is capable of producing at least 20 cubic feet of annual tree growth per acre or contains at least 8,000 board feet (8 mbf) of net timber volume per acre. Second-growth stands that have regenerated with conifer species after natural or human disturbance qualify as productive forest land. About 58 percent of the National Forest System land in the Woodpecker Project Area, or 16,630 acres, is classified as productive forest land.

Suitable Forest Land

Productive forest land is further classified as suitable or unsuitable for timber production. Suitability is based on the following criteria from the National Forest Management Act (NFMA):

- The land is forest land as defined under the NFMA.
- Technology is available to ensure timber production from the land without irreversible resource damage to soils productivity, or watershed conditions.
- There is reasonable assurance that the land can be adequately restocked as provided under NFMA.
- The land has not been withdrawn from timber production by an Act of Congress, the Secretary of Agriculture, or the Chief of the Forest Service (e.g., Wilderness Areas or Research Natural Areas).

During the Forest Plan analysis, all suitable land was considered for availability for timber production. The Forest Plan Record of Decision determined which areas of productive forest lands would be managed for timber production. Land use designations (LUDs) that allow timber production are: Scenic Viewshed, Modified Landscape, and Timber Production. Scenic River and Recreational River LUDs also allow for timber production if the adjacent LUD allows timber production. Within these LUDs, some areas were removed from the suitable timber base due to Forest Plan standards and guidelines. Riparian and beach buffers were considered as unsuitable forest lands. Forests on slopes greater than 72 percent need to have on-site reviews to confirm that the slopes are stable before timber harvest is approved.

Of the 16,630 acres of productive forest in the Woodpecker Project Area, about 9,720 acres is classed as suitable for timber production. About 8,060 acres of the suitable forest is old-growth forest and about 1,660 acres is second-growth forest.

Unsuitable Forest Land

Unsuitable forest lands are those lands that do not meet the National Forest Management Act criteria or are in a LUD that does not allow commercial timber harvest. Within the Woodpecker Project Area, the LUDs that do not allow timber harvest are: Old-growth Habitat, Special Interest Area, and Semi-remote Recreation. Several Forest Plan standards and guidelines preclude timber harvest, even on acres within LUDs that allow timber production.

Volume Classification

Historically, forested lands in the Tongass National Forest have been classified by volume class. Volume classes were replaced with volume strata for the classification of forest stands during the revision of the Forest Plan. Volume strata included hydric soils in the classification as a measure of productivity and growth rate.

Volume Class

Volume class is a method of classifying timber volume that was used in the 1979 Forest Plan. It was based upon a range of net board feet per acre derived from aerial photo interpretation. The volume class system is useful for estimating net timber volumes, but it is of limited use in estimating other resource values such as wildlife habitat.

Volume class information for the Woodpecker Project Area (Table 3-27) was obtained by updating the existing TIMTYP GIS layer developed from aerial photos in 1989 with field observations made in 1997, 1998, and 1999.

3 Other Environmental Considerations

Table 3-27. Volume Class Composition in the Woodpecker Project Area

Volume Class ¹	Board Feet Per Acre	Productive Forest (acres)	Suitable Forest (acres)
3	< 8,000	2,350	1,660
4	8-20,000	8,230	4,570
5	20,000-30,000	5,490	3,150
6 and 7	30,000+	560	340

¹ Volume Class 1 occurs immediately after harvest. Volume Class 2 is seedlings-saplings after the stand has been certified as stocked.

Volume Strata

The Forest Plan adopted a volume strata classification system that can be used for estimating volumes. This system provides better correlations for determining old-growth habitats used for wildlife analysis than the volume class system. The system also incorporates soils and slope information. The following strata were defined by combining volume class data with hydric soil classification (Table 3-26). Figure 3-14 displays the forest land classification by volume strata in the Woodpecker Project Area.

High Volume Strata - Areas within timber inventory volume classes 5, 6, and 7 on non-hydric soils, and on hydric soils with slopes greater than 55 percent.

Medium Volume Strata - Areas within timber inventory volume classes 5, 6, and 7 on hydric soils with slopes less than or equal to 55 percent; areas within timber inventory volume class 4 that are either on non-hydric soils, or are on hydric soils with slopes greater than 55 percent.




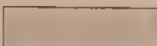



Low Volume Strata - Areas within timber inventory volume class 4 that are on hydric soils with slopes less than or equal to 55 percent.



Woodpecker Project Area Figure 3-14

Forest Land classification

LEGEND

-  Volume Strata High
-  Volume Strata Medium
-  Volume Strata Low
-  Lakes/Saltwater
-  Non-National Forest System Lands
-  Existing Managed Stands
-  Project Area Boundary

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0 5280 10560

Scale is 1 inch = 5280 feet



Table 3-28. Average Volume and Acreage by Volume Strata in the Woodpecker Project Area

Volume Strata ¹	Average Volume per Acre ² (Board Feet)	Productive Forest Acres	Suitable Acres
Low	16,900	0	0
Medium	24,100	8,190	4,560
High	29,300	8,440	5,160

¹ Includes managed stands. Strata is estimated using site productivity index.

² Volume per acre is from the Forest Plan FEIS, Part 1, page 3-255.

Volume Strata in Proposed Harvest Units

Table 3-29 displays the volume strata classification of proposed harvest units by alternative.

Table 3-29. Total Proposed Unit Acres by Volume Strata and Alternative

Volume Strata	Alt. 2 (acres)	Alt. 3 (acres)	Alt. 4 (acres)	Alt. 5 (acres)	Alt. 6 (acres)
Low	0	0	0	0	0
Medium	580	280	1,020	940	580
High	520	200	740	710	670
Other ¹	40	30	80	80	40

¹ Scattered inclusions of non-forest or low productive forest within units

Past Timber Harvest

Timber harvest has occurred within the Woodpecker Project Area since the early 1900s. Prior to the development of the pulp mills and the long-term contracts, logging was confined to beach operations. Timber harvest in the Woodpecker Project Area was limited until the 1960s, when roads were built and industrial scale logging began. Table 3-30 displays the number of acres logged in the project area by decade.

Pacific Northern Timber Contract

Most of the timber harvested in the 1960s and 1970s was for the Pacific Northern Timber long-term contract, which was closed in 1981. Much of the road system was built at that time but not connected to the City of Petersburg. Logging camps were established at Woodpecker Cove and at Olsen Point.

3 Other Environmental Considerations

Independent Sales of the 1980s and 1990s

After the cancellation of the long-term contract, timber harvest progressed at a slower rate with sales purchased by independent operators. All of the harvest units were clearcut, and many sales involved the salvage of blowdown timber. Roads built to access timber included Road 6245 (Woodpecker Road) from the junction with Road 40003 to the end, and Road 40006 (Snake Ridge Road). The most recent sales in the area were the Sumner Salvage Timber Sale, which harvested blowdown timber by helicopter in 1995, and Road 6245 Salvage Timber Sale, which harvested dead and dying yellow-cedar trees in 1997.

Table 3-30. Acres of Timber Harvested in the Woodpecker Project Area, 1940-1999

Harvest Period	Acres Harvested ¹
1940-1949	20
1950-1959	60
1960-1969	90
1970-1979	1,930
1980-1989	660
1990-1999	170
TOTAL	2,930

¹ Includes harvest on lands which were later transferred to the State of Alaska

Managed Stands

Following timber harvest, the managed forest goes through distinctive developmental stages. Removal of the forest overstory alters the microsite conditions that influence density and species composition of the understory vegetation. Different components dominate the stand at different stages, and the overall forest structure will change as the new stand develops. The level of change will depend on the type of silvicultural treatment applied during harvest and subsequent treatments applied during stand development. Characteristics such as tree height, diameter, and overall stand productivity will vary according to site class. However, second-growth stands commonly show less variability in tree diameter and height than the old-growth stands they are replacing. Various levels of large tree structure will be retained in most harvested stands for diversity and wildlife habitat.

Second-growth timber has a stand size of seed-saplings or pole timber. It is usually the result of clearcut harvest. Currently, about 21 percent of the suitable forest land in the Woodpecker Project Area is second-growth timber. Management of these harvested acres will improve stand

conditions for future timber production and increase forage for deer and moose. Reforestation, thinning and pruning are practiced in these second-growth stands.

Reforestation

Natural regeneration is used to restock most units harvested; however, hand planting of Alaska yellow-cedar is practiced where the yellow-cedar component is desired, but would have a low survival rate with natural regeneration methods.

Harvested areas must be reforested with a minimum of 300 trees per acre by the fifth year following harvest. This is monitored with regeneration surveys and certification of successful reforestation.

Thinning

Following timber harvest, natural regeneration often results in stands with too many trees per acre, reducing individual tree growth and shading out understory vegetation that may be valuable to some wildlife species. Thinning is designed to improve future tree growth by reducing stand density, thus reducing the competition between trees for sunlight. Increased sunlight as a result of thinning also allows for greater shrub and forb growth, thereby increasing wildlife forage.

In older harvested stands (35 to 45 years or older), as the canopy progressively closes and sunlight is virtually absent, the understory vegetation becomes suppressed. If thinned at this age, the thinning slash is extremely thick due to the size of the cut trees (some as large as 6 inches in diameter and 30 feet in height). The slash does not come into contact with the ground, and decomposes slowly. Consequently, sunlight would still be limited due to the accumulation of thinning slash, and germination of forage species would be limited for an extended period of time. The effectiveness of the thinning would be limited. At this point, it may be too late to improve forage.

Conversely, it is too early to thin when canopy cover is relatively sparse with many open spaces between trees. At this stage, there is probably abundant forage, and thinning would probably not provide much more forage. In addition, new hemlock regeneration could become established after the thinning and suppress some release of the forage. When thinned too early, trees have not expressed dominance, making it difficult to select which trees to cut while thinning.

The first thinning program for harvested stands in the Woodpecker Project Area began in 1980, when stands were approximately 12 to 20

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years old. In many cases, the stands were thinned too early. We are currently prescribing stand thinning at 25 - 30 years of age. Stands harvested prior to 1960 are considered to be too old to benefit from thinning. Since 1980, stands have been periodically surveyed to determine the need for thinning. Approximately 1,160 acres of the 2,930 acres that have been harvested on all lands in the Woodpecker Project Area have been thinned to date. About 290 of these thinned acres were transferred to the State of Alaska.

The remaining 1,770 acres are not eligible for thinning or pruning because:

- 410 acres are too young for thinning to be effective,
- 100 acres are too old for thinning to be effective,
- 830 acres do not require thinning at this time due to site conditions resulting in spacing between trees such that competition between trees has not yet developed,
- 60 acres are in areas otherwise not suitable for thinning (e.g., rocky outcrops), and
- 370 acres were transferred to the State of Alaska before they were ready for thinning.

It is not known if thinning will have an application in uneven-aged stands resulting from partial harvest. Stocking surveys and additional analysis will be done as these stands develop.

Pruning

As a harvested stand develops to the point where the trees are too large to thin and the understory is stressed but able to be released, pruning may be considered. It may provide enough indirect sunlight penetration through the canopy to maintain the understory vegetation for wildlife forage. Pruning also increases the value of each tree, by providing knot-free wood as the tree grows. Pruning will allow the maximum volume to be produced in the stand while still maintaining the vegetative understory.

Currently, there are no stands in the Woodpecker Project Area that would benefit from pruning in the near future. However, those stands that have already been thinned will be monitored for future pruning opportunities to effectively maintain wildlife habitat and increase timber value.

Silvicultural Systems

Silvicultural systems are used to manage, harvest, and re-establish stands of forest trees for the purpose of meeting certain objectives. Silvicultural systems have been developed to produce more valuable commercial timber at a faster rate, maintain wildlife habitat, and either maintain or enhance scenery values. No single silvicultural system for a forest stand can be used to achieve all the desired combinations of amenities and products. Instead, a variety of treatments applied over the Woodpecker Project Area results in a mosaic of stands for different uses. By harvest of timber or other treatments such as thinning or pruning, the existing stands would be altered by proposed management actions. Many times the proposed treatments are designed to emulate natural disturbance.

The Forest Plan (Appendix G) provides detailed information about the silvicultural systems recommended for the Tongass National Forest. Two-aged management will result in a seedling stand with varying levels of older-aged residual trees. Uneven-aged management will result in stands with younger trees interspersed with older trees, either in clumps or distributed across the stand. Even-aged management will result in the conversion of mature stands to faster growing stands of a single age. The post-harvest condition of the forest stand for all systems will be dependent upon the existing plant community, the retained canopy structure, and advance regeneration. Species composition will be monitored to ensure that the mix of species is roughly the same as the existing site.

The Woodpecker Project Area analysis used a variety of silvicultural systems tailored to site-specific objectives. These objectives include:

- retaining stand legacy or old-growth characteristics to maintain biodiversity,
- economics and logging feasibility,
- protection of the soil, watershed, wildlife habitat, and scenery characteristics of the project area, and
- production of wood-fiber for future human use.

A complete silvicultural prescription for the entire length of the rotation has been written for each stand selected for harvest. These prescriptions provide guidance for treatments following the proposed timber harvest for this project, including subsequent entries, cedar interplanting, thinning, pruning, and fertilization through the entire rotation.

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Harvest Treatments

The following harvest treatments have been selected for use in the Woodpecker Project Area. These were based on the Forest Plan land use designation, standards and guidelines, management objectives and the logging systems. More information as well as harvest treatment by unit is found in Appendix B. Table 3-31 lists the total harvest unit acres by alternative for each harvest treatment. The harvest treatment for a proposed unit in the Woodpecker Project Area is the initial entry for the silvicultural prescription. Table 3-32 displays the effects of previous and proposed timber harvest on forest land in the Woodpecker Project Area.

Uneven-aged Silvicultural Systems

Removal of patches of trees

Stands proposed for this system would have either 75 percent or a range from 50-66 percent of the trees remaining after harvest. Merchantable trees (trees greater than 9 inches in diameter) would be harvested in small patches to form a mosaic of irregularly shaped openings within the stand. Smaller trees may be left in this area if the larger trees can be safely removed. Each group harvested would consist of a mixture of tree sizes. Groups of trees infected with dwarf mistletoe would be targeted for removal to avoid infection for the regeneration. Groups with windfirm characteristics would be a high priority to leave. Each harvested opening will regenerate, creating a patch of trees with a uniform age and height. These openings may be thinned. This will maintain or create a stand of three or more distinct size classes in small groups, resulting in an uneven-aged stand.

These groups provide small foraging areas interspersed with cover. The large trees provide habitat for cavity nesters and meet the Marten Standards and Guidelines in high value marten habitat. The appearance of the residual stand mimics natural blowdown patches.

Removal of trees distributed across the stand

Stands proposed for this system would have either 75 percent or a range from 50-66 percent of the trees remaining after harvest. This will regenerate and maintain a multi-aged structure by removing some trees in various size classes distributed across the stand. The trees to be harvested would be selected using a criterion such as species, diameter limits or spacing. A range of diameters, or everything above or below a certain diameter limit, may define the trees selected for harvest. Different diameters may be used for different species. The resulting stand may have small openings plus individual trees harvested throughout the stand. Sometimes other trees may be harvested to create safe working conditions or for logging operability.

Removing trees throughout the stand would retain a continuous large tree canopy following harvest and still manage the stand for timber production. The residual stand would have structural diversity that would provide wildlife habitat and maintain scenic quality. Marten Standards and Guidelines would be met in high value marten habitat. This will maintain or create a stand of three or more distinct size classes distributed throughout the stand, resulting in an uneven-aged stand.

Two-aged Silvicultural Systems

Stands proposed for this system would have 20-30 percent of the trees remaining after harvest. Some of the trees would be reserved as legacy trees through the rotation. These reserve trees may be dispersed throughout the stand or in clumps, can be merchantable or unmerchantable, and should be relatively windfirm. The residual stand would have a two-layered canopy structure with two or more age classes of trees. In areas of high value marten habitat, the Marten Standard and Guideline to retain at least seven large trees would be followed and 20-30 percent of the canopy cover would be retained following harvest. This strategy is explained in more detail in the Introduction to Unit Cards in Appendix B.

The large trees that remain will provide wildlife habitat for old-growth associated species, such as cavity nesters and roosts for foraging raptors. The legacy trees will provide stand structure that will soften the effect for scenery concerns. This will maintain or create a stand of two or more distinct size classes. At the end of the rotation, the result will be a mature stand with some older trees.

Table 3-31. Harvest Unit Acres by Harvest Treatment for Each Alternative

Timber Harvest Treatment		Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Removal of trees in patches	75% Retention	490	60	610	200	330
	50-66% Retention	170	100	120	60	210
Removal of trees dispersed throughout the stand	75% retention	80	80	130	0	50
	50-66% Retention	180	100	870	470	470
20-30% Retention – Trees left in patches or dispersed throughout the stand		220	160	120	940	240
0% Retention –Unmerchantable trees retained where feasible		0	0	0	60	0
Total Acres of Harvest Units		1,140	500	1,850	1,730	1,300

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Table 3-32. Previous and Proposed Timber Harvest for Each Alternative

		Alt.1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Proposed timber harvest for this project and cumulative effects							
Acres of harvest units proposed for this project	Even-Aged or Two-Aged Management	0	220	160	120	1,000	240
	Uneven-Aged Management ¹	0	920	340	1,730	730	1,060
Effects on productive forest land							
Acres of productive forest		16,630	16,630	16,630	16,630	16,630	16,630
Acres of previous harvest of productive forest		2,350	2,350	2,350	2,350	2,350	2,350
% of productive forest acres proposed for this project		0	7	3	11	10	8
Cumulative % of productive forest managed		14	21	17	25	24	22
Effects on suitable forest land²							
Acres suitable for timber harvest		9,720	9,720	9,720	9,720	9,720	9,720
Acres of previous harvest of suitable forest		1,660	1,660	1,660	1,660	1,660	1,660
% of suitable forest acres proposed for this project	Even- Aged or Two-Aged Management	0	2.3	1.6	1.2	10.3	2.5
	Uneven-Aged Management ¹	0	9.5	3.5	17.8	7.5	10.9
Cumulative % of suitable forest managed	Even- Aged or Two-Aged Management	17.1	19.4	18.7	18.3	27.4	19.6
	Uneven-Aged Management ¹	0	9.5	3.5	17.3	24.6	10.9
Acres proposed for harvest by logging system							
Unit acres using cable logging		0	990	350	310	630	750
Unit acres using shovel logging		0	150	150	150	150	150
Unit acres using helicopter logging		0	0	0	1,390	910	400

¹ The residual stands would have 50% to 75% of the trees remaining.

² Some previously harvested areas are now within beach fringe, riparian management areas, or non-development land use designations and are no longer considered suitable for timber production.

Even-aged Silvicultural System

All merchantable trees will be harvested. The objective is to create a fast-growing stand of trees to maximize wood fiber production. This method is not compatible with most areas of the Woodpecker Project Area due to standards and guidelines for scenery and wildlife. Some unmerchantable trees may be left to create future stand diversity, if the larger trees can be removed safely. The stand would regenerate into a mostly single-age stand. Where this treatment is recommended, it has

been determined that it is optimal for the site and the created openings would not exceed 100 acres, to be in compliance with the National Forest Management Act.

Forest Health

From the perspective of timber management, the health of a timber stand is increased through harvesting. Timber harvest within the Woodpecker Project Area will result in a reduction of the number of stands with slow or declining growth rates due to decay and western hemlock dwarf mistletoe. Harvesting stands in declining health and replacing them with younger, more vigorous stands will reduce the volume loss associated with decay and increase the growth and yield of the managed forest land in all the action alternatives. However, many insects and pathogens also contribute significantly to ecosystem diversity and long-term stability in old-growth stands by providing increased canopy diversity and animal habitat in the form of snags and small openings.

Timber harvest in the proposed alternatives will have no measurable effect on the overall forest pest populations. Although partial harvest may benefit stand health in the form of stocking control, it may also cause damage and resulting decay to residual trees during logging operations. In general, timber stands in Southeast Alaska experience increased decay and mortality and decreased growth after 80 to 160 years.

Wind Disturbance

Wind is the major disturbing influence affecting the forests on exposed south-aspect slopes within the Woodpecker Project Area. The prevailing winds are associated with regular southeasterly to southwesterly gales. Most of the south-aspect stands have evidence of periodic windthrow events, where openings were created for successive generations of trees.

On wind-exposed south-facing slopes, stand development most commonly begins with an infrequent but catastrophic event (Nowacki and Kramer, 1998). A wind storm blows down most of the trees, and may leave varying numbers of residual trees. Over time, seedlings appear in the openings created by the wind storm. There may be two distinct age classes in the stand; individual trees that were left standing following the windstorm, and the regenerated seedlings that started growing immediately following the storm. Or, the windstorm may create an even-aged forest stand.

Stands on the north-facing slopes are not exposed to major windstorm events. Trees die of decay or other biological factors. When these trees

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fall down, which may be years after death, small openings are created. Seedlings will colonize these openings if sufficient sunlight and nutrients exist. These openings are sometimes too small to let these young trees thrive and they may be suppressed for years. This process, referred to as gap-phase dynamics, is ongoing and maintains the old-growth characteristics of multiple tree sizes and ages, downed dead logs, and existing standing dead trees.

Stands that are less susceptible to windthrow generally develop with an open canopy structure that allows individual trees to become relatively windfirm in response to wind stress. Some of the characteristics of windfirm trees include:

- Open-grown trees which have been exposed to storm winds throughout their life,
- Dominant trees with crowns well above the average stand height,
- Short trees with a low form class and high stem taper
- Straight trees, with well-formed stems and no lean
- No stem or root decay and no stem swelling
- Western redcedar, Alaska yellow-cedar, and immature alder species.

Even-aged silvicultural practices may increase the likelihood of blowdown by increasing the amount of previously unexposed standing timber exposed to the winds. Partial cutting techniques that remove less than 30 percent of the overstory result in stands that are more wind resistant than other silvicultural practices (Harris, 1989). Large, long, narrow openings oriented in the north-south direction on a south aspect maximize the probability of blowdown. Conversely, small, round, or irregularly shaped openings minimize the probability of blowdown. Crown size is another significant factor in windthrow. The greater the mass of the crown, the greater the likelihood of a tree being blown down.

This analysis has carefully considered windthrow and has designed units in a way to minimize the potential for windthrow after harvest. Localized conditions such as soil, terrain, aspect, stand structure, evidence of existing windthrow, and prevailing wind direction, were considered to predict potential windthrow within and adjacent to proposed harvest units. Where possible, unit boundaries were designed to avoid steep slopes, ridge tops, saddles, and the upper one-third of leeward slopes. Long, narrow openings oriented in a north-south direction were also avoided, when possible, during unit design. Windfirm trees (as described previously in this section) are prioritized to remain in units where single trees are to be removed, and in units where scattered reserve trees are to be left. In other units, the probability of windthrow was minimized through the design of small (2-3 acre), irregularly shaped openings. Where there was a windthrow concern with a unit boundary affecting an

adjacent stand, a windfirm buffer of trees with windfirm characteristics and/or an irregularly shaped boundary was designed.

Yellow-cedar decline

Yellow-cedar decline causes considerable mortality in the Woodpecker Project Area, and in other parts of Southeast Alaska. Mortality can be in small patches or can cover expansive areas. Some affected trees die quickly, within two or three years, while others decline over a period of 15 years or more, with progressively thinning crowns.

The cause of yellow-cedar decline is not completely understood, but the mortality is generally associated with boggy conditions, usually near muskegs. The primary cause of mortality is unknown, and no single factor has been shown to be primarily responsible for tree death. The method of spread of yellow-cedar decline is not understood, but the disease appears to be expanding in the Woodpecker Project Area.

Yellow-cedar decline affects about 2,000 acres in the Woodpecker Project Area. It is evident in many of the proposed harvest units. Yellow-cedar may be salvaged from some of these units.

Dwarf Mistletoe

Dwarf mistletoe reduces the vigor and growth rate of hemlock and often produces a low quality of timber (Ruth and Harris, 1979). Cankorous swellings often occur at the point of infection on limbs and main stems. These cankers offer an entrance for wood-destroying fungi, which can lead to heart rot. Dwarf mistletoe is relatively widespread in the Woodpecker Project Area.

Dwarf mistletoe progresses relatively slowly in Southeast Alaska. In stands that are partially harvested, the infected trees, if any, will be targeted for removal to eliminate infected trees in the residual stand.

Black-headed Budworm

The black-headed budworm is the most significant defoliator of the coastal spruce-hemlock forests of Alaska. Though the main host of the budworm is western hemlock, Sitka spruce and mountain hemlock may be alternate hosts. A small outbreak of black-headed budworm occurred in the Woodpecker Project Area from 1995-1997, but does not appear to have resulted in significant mortality.

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Decay Fungi

There is evidence of abundant decay fungi in unmanaged stands throughout the Woodpecker Project Area. The ubiquitous populations of fungi cause timber volume loss, and impact growth and yield. Many decay fungi enter through tree wounds. The accidental wounding of trees during partial harvest can increase the impact from decay organisms in managed stands.

Effects of the Alternatives

The structure of the forest will be affected by timber harvest. The effects will vary by the silvicultural prescription and the number of acres harvested. Partial harvest will maintain old-growth forest but with fewer trees. The distribution of the trees will vary depending on the prescription. Removal of trees in patches will result in small openings that will regenerate to second-growth forest. Removal of trees dispersed throughout the stand will result in old trees interspersed with regeneration of young trees. Forest health concerns, including the removal of trees with disease or that face imminent mortality, can be used as factors in determining which trees to harvest. Clearcut harvest and two-aged management will result in the creation of primarily second-growth stands with or without older residual trees.

Alternative 1

Vegetation and forest health would not be affected. Tree growth and mortality would continue to progress at the same rate as present. Other forest lands with land use designations that allow timber harvest would need to meet the objective of providing timber for public consumption to meet market demand.

Alternative 2

About 220 acres would be converted to a two-aged forest. All of these acres would have 20-30 percent of the older, large trees left after this harvest. On 660 acres, patches of trees would be removed, leaving 50-75 percent of the trees remaining. This would create a mosaic of old-growth forest with regeneration in the openings. Removing trees dispersed throughout the stand on 260 acres while leaving 50-75 percent of the trees remaining would retain some of the old-growth characteristics of the forest, but would result in a forest with lower volume.

Forest health and productivity would be improved by the removal of dwarf mistletoe-infected trees and trees infested by insects, and by creating younger, faster-growing forests.

Alternative 3

This alternative would have the least effect of any action alternative on the vegetation in the Woodpecker Project Area. About 160 acres would be converted to two-aged forests. All of these acres would have about 20-30 percent of the older, large trees left after this harvest. On 160 acres, patches of trees would be removed, leaving 50–75 percent of the trees remaining. This would create a mosaic of old-growth forest with regeneration in the openings. Removing trees dispersed throughout the stand on 180 acres while leaving 50-75 percent of the trees remaining would retain some of the old-growth characteristics of the forest, but would result in a forest with lower volume.

Forest health and productivity would be improved by the removal of dwarf mistletoe-infected trees and trees infested by insects, and by creating younger, faster-growing forests.

Alternative 4

About 120 acres would be converted to two-aged forests. All of these acres would have about 20-30 percent of the older, large trees left after this harvest. On 730 acres, patches of trees would be removed, leaving 50–75 percent of the trees remaining. This would create a mosaic of old-growth forest with regeneration in the openings. Removing trees dispersed throughout the stand on 1,000 acres while leaving 50-75 percent of the trees remaining would retain some of the old-growth characteristics of the forest, but would result in a forest with lower volume.

Forest health and productivity would be improved by the removal of dwarf mistletoe-infected trees and trees infested by insects, and by creating younger, faster-growing forests.

Alternative 5

This alternative would have the greatest effect on the vegetation in the Woodpecker Project Area. About 1,000 acres would be converted to future young-growth forests. Of these acres, 940 acres would have 20-30 percent of the older, large trees left after this harvest. Sixty acres would have some smaller trees left after harvest. On 260 acres, patches of trees would be removed, leaving 50–75 percent of the trees remaining. This would create a mosaic of old-growth forest with regeneration in the openings. Removing trees dispersed throughout the stand on 470 acres while leaving 50-75 percent of the trees remaining would retain some of the old-growth characteristics of the forest, but would result in a forest with lower volume.

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Forest health and productivity would be improved by the removal of dwarf mistletoe-infected trees and trees infested by insects, and by creating younger, faster-growing forests.

Alternative 6

About 240 acres would be converted to a two-aged forest. All of these acres would have 20-30 percent of the older, large trees left after this harvest. On 540 acres, patches of trees would be removed, leaving 50-75 percent of the trees remaining. This would create a mosaic of old-growth forest with regeneration in the openings. Removing trees dispersed throughout the stand on 520 acres while leaving 50-75 percent of the trees remaining would retain some of the old-growth characteristics of the forest, but would result in a forest with lower volume.

Forest health and productivity would be improved by the removal of dwarf mistletoe-infected trees and trees infested by insects, and by creating younger, faster-growing forests.

Cumulative Effects

Past harvesting has resulted in the conversion of 2,930 acres from old-growth forest to second-growth forest within the Woodpecker Project Area. About 1,660 acres is on forested land within the suitable timber base. The Forest Plan has determined management of this suitable timber for the foreseeable future. Forest-wide, existing second-growth forest has been scheduled as part of the timber supply. Thinning of second-growth or conversion to uneven-aged management may occur. All of the proposed harvest units that have an uneven-aged management prescription have subsequent entries planned. The current ten-year timber sale schedule does not include any other timber harvest projects for the Woodpecker Project Area.

Soils

Soils form the foundation of the forest ecosystem and have evolved with the climate and vegetation. The integrity and stability of a soil determine the long-term productivity of the vegetation. The region's cool growing season and abundant rainfall greatly influence soil characteristics. Under these conditions, organic material decomposes slowly and tends to accumulate.

Soil Types

Soils in the Woodpecker Project Area have developed from a variety of inorganic and organic sources. Mineral soils develop from weathered rock materials and organic soils develop from decomposed plant materials.

Mineral Soils

Mineral soils originate from weathered bedrock, deposits of glacial till, alluvium, and colluvium. These soils have a potential for landslides when they occur on steep slopes. The soil surface typically consists of partially decomposed organic material. Soil depths range from less than 20 inches to more than 20 feet. Drainage ranges from good to poor. These soils typically support a hemlock or hemlock-spruce vegetation series. Poorly-drained sites support smaller, lower density mixed-conifer stands.

Organic Soils

Organic soils, common and widely distributed in the Woodpecker Project Area, are often found covering glacial deposits on relatively flat valley bottoms. Drainage on forested organic soils ranges from good to very poor. Non-forested organic soils are usually poorly or very poorly drained. Organic deposits range from about three inches to over 40 feet in depth. Organic soils in Southeast Alaska typically support mixed conifer, western hemlock-yellow-cedar, western hemlock-western redcedar, or shore pine stands. Non-forested organic soils support muskeg or alpine meadow plant communities.

Soil Productivity

Soil productivity, which is the inherent capacity of a soil to support the growth of specific plants or plant communities, is critical to the forest because it affects the productivity of most other forest resources. The characteristics and conditions of the soil affect the productivity of many other forest resources. Tree growth, wildlife, fish habitat, and recreation opportunities are all influenced by soil quality. Soil drainage and soil depth have a major influence on soil productivity in Southeast Alaska. In

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general, soils with poor drainage or shallow depth are lower in productivity than deeper, well-drained soils.

Soil Disturbance and Erosion

Soil disturbance is an unavoidable consequence of timber harvest and road construction. The level of disturbance varies with management practices and site characteristics.

Surface erosion occurs when soil is detached and transported by water. Most undisturbed soils in the Woodpecker Project Area are resistant to surface erosion due to a relatively thick, organic surface layer, which absorbs large quantities of water and protects the soil from displacement. If this layer is removed, the underlying soil is subject to erosion.

Erosion can occur on a minute scale such as raindrop splash erosion or on a large scale such as a landslide. The type of yarding equipment used will influence the amount of erosion potential. Helicopter-yarding causes the least amount of disturbance to the soil surface. Shovel-yarding usually does not disturb the soil surface if slash is used under the tracks of the machine. Cable-yarding may expose some mineral soil where trees are partially suspended, but the effects are minimized through the implementation of Best Management Practices.

Mass Movement

Mass movement is the dominant process of natural erosion and slope reduction in Southeast Alaska (Swanston, 1969). Mass movement occurs where the topography is steep and the soil materials are weakened to the point that they can no longer resist the downslope component of gravity. In Southeast Alaska, areas of natural mass wasting are associated with steep slopes within narrow V-notch tributary drainages and the steep, upper sideslopes of U-shaped valleys.

A slope's stability is influenced by soil strength, soil depth, groundwater accumulation, slope gradient, and vegetation characteristics. Visible field indicators of unstable soils include slide scarps, jack-strawed trees, and a distinct change to relatively young plants or pioneer species.

Mass movement indices (MMIs) have been assigned to each soil mapping unit according to the relative potential for mass movement (Figure 3-15). The indices are based on slope, drainage, bedrock characteristics, soil characteristics, existing landslides, and vegetation. Very high hazard soils are given additional investigation prior to or during the sale preparation. Any areas of unstable soils identified are avoided during sale preparation.

Table 3-33 displays the soil mass movement indices within harvest units by alternative.

Table 3-33. Soil Mass Movement Indices Within Harvest Units

MMI	Alt. 1 acres	Alt. 2 acres	Alt. 3 acres	Alt. 4 acres	Alt. 5 acres	Alt. 6 acres
Low	0	520	260	610	570	500
Medium	0	220	220	1,120	950	670
High	0	80	10	200	190	130
Very High	0	0	0	0	0	0

The Forest Plan Soils Standard and Guideline removed all sites on slopes greater than 72 percent from the suitable timber database. At project level analysis and implementation, timber harvest can occur in these areas if they are found to be stable. On-site analysis is needed to determine whether an area is stable enough for timber harvest.

During the analysis of the Forest Plan, landslides greater than 199 cubic meters occurring between 1962 and 1983 in Southeast Alaska were evaluated. Over 75 percent of these landslides were debris avalanche and debris flow type landslides that involved movement of water-charged soil, rock, and organic material down shallow gullies and hill slope depressions. The remaining landslides were debris torrents that are generally confined within deeply incised gullies and canyons. Sixty-two percent of all landslides were initiated on slopes between 56 and 75 percent. Landslides also appear to have a limited range of elevation, with 72 percent of all failures occurring below 1,320 feet elevation.

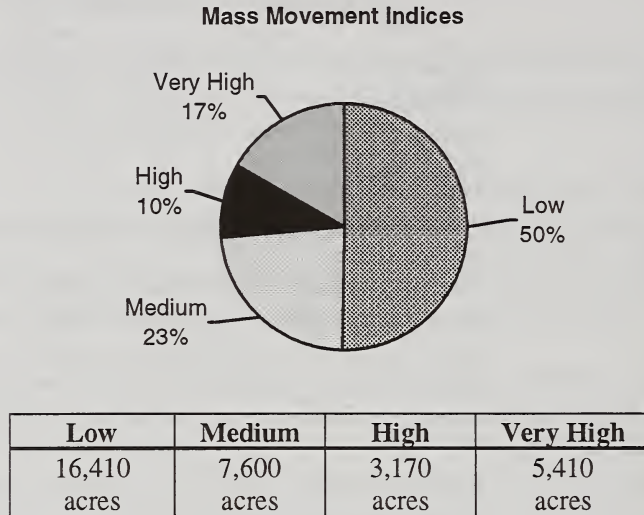
Several landslides are found within the Woodpecker Project Area. Most of these are less than 5 acres in size, and have regenerated with alder. They occur on steep slopes at higher elevations, and are generally not associated with past timber harvest. Some of the slides are visible from the Wrangell Narrows. One is in the southwest corner of the project area facing the Wrangell Narrows, within a stand that was harvested in 1933. It has since been recolonized with alder and appears stable. No proposed units are adjacent to this area.

Road Fill Failures

In October 1999, heavy rains caused a road fill failure approximately 2.3 miles from the end of Road 6245. Four similar road failures occurred in 1999 and 2000 on Roads 6286 and 6282. Repairs to both Road 6245 and Road 6286 are scheduled for completion in 2001. The repair of Road 6282 is currently being surveyed and designed, and is planned for completion in 2002.

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Figure 3-15. Acres of Mass Movement Indices in the Woodpecker Project Area¹



¹ Includes state lands

There are also two landslides running through a unit harvested in 1978 at the end of Road 6284. These slides are shallow and occur at a contact between glacial till and bedrock. Deterioration of root strength following logging may have contributed to these slides. The larger slide was seeded and fertilized and the lower end was planted with alder in the 1970s. This slide is now completely revegetated. The smaller slide is partially revegetated. Revegetation is proposed for the smaller slide in Alternatives 2, 4, 5 and 6. No proposed timber harvest units are adjacent to this area.

Best Management Practices

Section 313 of the Clean Water Act and Executive Order 12088 require that Best Management Practices (BMPs) that are consistent with State Forest Practices and other applicable State Water Quality Regulations be used to mitigate the impacts of land-disturbing activities. Site-specific application of these BMPs are designed with consideration of geology, land type, hydrology, soil type, erosion hazard, climate, cumulative effects, and other factors in order to protect and maintain soil, water, and water-related beneficial uses. BMPs that were identified as being needed during the planning process are shown on the Unit Cards and Road Cards in Appendix B. Additional protective measures may be applied during timber sale layout or during harvest activities as needed.

Best Management Practices for soils, which are applied to all proposed activities, include:

- Partial suspension of logs (lead end of log is suspended above the ground) is recommended on all cable yarding settings. This is primarily to prevent displacement of the nutrient-rich surface soil layers (BMP 13.9).
- Full suspension of logs (both ends of the log suspended above the ground) by skyline cable systems or helicopter yarding is designated where needed to prevent excessive erosion or landslides (BMP 13.9).
- Shovel yarding is designated on gently sloping soils that have thin, easily disturbed surface soils. This minimizes displacement of organic horizons and exposure of mineral layers that could result in the establishment of brush species such as alder and/or salmonberry to the detriment of conifer regeneration (BMP 13.9).
- Roads are designed to maintain the natural drainage pattern to prevent excessive in-stream erosion and detrimental changes in soil drainage (BMP 14.3)
- Revegetation will occur along all new roads.

Direct Effects

There will be little or no difference in effect on soils between alternatives. All unstable slopes will be avoided, and Best Management Practices will be applied in all alternatives. These practices include logging system designs for each timber harvest unit to minimize soil disturbance and intensive timber sale contract administration to ensure compliance. All alternatives are expected to meet or exceed Forest Plan standards and guidelines. There will be no measurable adverse effect on the long-term productivity of the soil, except for the acres that will be impacted by the construction of classified road. No road construction would occur on slopes greater than 67 percent in any alternative. Refer to the Vegetation and Timber Resources, and Transportation sections of this chapter for details on the miles of roads and acres of timber harvest proposed.

Alternative 1

There would be no effect on the soil processes occurring in the Woodpecker Project Area.

3 Other Environmental Considerations

Alternative 2

This alternative builds the most road, with about 4.8 miles of classified road construction and 6.1 miles of temporary road construction. About 1.8 miles of new classified road would be left open for public use. Of the 1,140 acres proposed for timber harvest, only 220 acres will involve the removal of over 50 percent of the trees.

Bare cutbank slopes along Roads 6245 and 40003 would be revegetated. These proposed projects would improve soil stability in those areas. There would be little other effects on soils in this alternative.

Alternative 3

This alternative will have the least potential for soil disturbance due to the fact that only 500 acres would be harvested and no classified road construction would occur. Two-thirds of the 500 acres harvested will retain over 50 percent of the trees on the site. About 3.9 miles of temporary road will be constructed.

Alternative 4

Although this alternative has the highest number of acres within harvest units, about 1,850 acres, much of the potential impacts will be mitigated through the use of helicopter yarding on 1,350 acres. Over 50 percent of the trees will be left on 1,730 of these acres. About 3.1 miles of temporary roads would be constructed.

A minor amount of timber harvest would occur on slopes greater than 72 percent. These slopes have been field inspected to verify their stability. Bare cutbank slopes along Roads 6245 and 40003 would be revegetated. These proposed projects would improve soil stability in those areas. There would be little other effects on soils in this alternative.

Alternative 5

This alternative has the potential to cause the most effect on soil erosion and productivity. About 1,000 acres of the 1,730 acres would have all or most of the trees removed. There will be 3.5 miles of classified road construction and 4.1 miles of temporary road construction. All of the temporary roads would be decommissioned after timber harvest is complete. One mile of new classified road would be left open for public use.

A minor amount of timber harvest would occur on slopes greater than 72 percent. These slopes have been field inspected to verify their stability.

Bare cutbank slopes along Roads 6245 and 40003 would be revegetated. These proposed projects would improve soil stability in those areas. There would be little other effects on soils in this alternative.

Alternative 6

Of the 1,300 acres proposed for timber harvest, only about 240 acres will involve the removal of more than 50 percent of the trees. This alternative builds the same amount of classified road as Alternative 2, but fewer miles of temporary road (3.8 miles). All of the temporary roads would be decommissioned after timber harvest is complete. About 1.8 miles of new classified road would be left open for public use.

A minor amount of timber harvest would occur on slopes greater than 72 percent. These slopes have been field inspected to verify their stability.

Bare cutbank slopes along Roads 6245 and 40003 will be revegetated. These proposed projects would improve soil stability in those areas. There would be little other effects on soils in this alternative.

Cumulative Effects

Cumulative effects of these actions on long-term soil productivity are directly related to the amount of soil disturbance that occurs through time and the amount of recovery that takes place in the soil system in that time. Minor soil disturbance, erosion, and the associated loss of productivity resulting from timber harvest activities will occur. Most of these effects will be relatively short-term; they will last until revegetation occurs shortly after each entry. Revegetation sufficient to provide ground cover in most areas will occur within 3 to 5 years of timber harvest.

Mass movement hazard peaks about 3 to 7 years after timber harvest as root decay decreases soil cohesion. As revegetation occurs and root systems develop, soil cohesion increases and the mass movement hazard in harvested areas decreases.

3 Other Environmental Considerations

Fish Habitat and Water Quality

Fish and Fish Habitat Use

Anadromous fish such as salmon spend part of their life in fresh water and part of life in salt water. Salmon lay their eggs in stream gravels. Newly hatched salmon live in the spawning gravel, still attached to their yolk sac. Juvenile fish emerge from the gravel and are free swimming. The amount of time the juveniles spend in fresh water depends on the species of salmon. Pink and chum salmon start their downstream migration soon after emergence, while coho salmon will spend one to three years in fresh water before migrating to the ocean. Pink and chum salmon school in estuaries, moving toward the open ocean in the summer.

Salmon reach maturity in the ocean, returning to their natal streams to spawn and die and start the cycle again. Pink salmon return to streams after about 15 months in salt water. Chum salmon commonly return to fresh water within three to five years, but they may spend as long as seven years in the ocean. Both pink and chum salmon spawn in the intertidal zones of rivers, most commonly in the lower reaches of the watershed.

Coho and king salmon rely on fresh water systems for rearing as well as spawning. Coho will spend from one to three years in fresh water before migrating to the ocean. They live in salt water for approximately 18 months, and they return to streams to spawn. Steelhead trout follow a cycle similar to coho salmon, except they often survive the spawning season, return to the ocean, and spawn again.

Adfluvial fish such as resident trout and char spend all of their lives in fresh water. These fish spawn in stream gravels and grow to maturity in streams and lakes.

Four species of salmon (pink, chum, coho, and possibly king), one species of trout (cutthroat, including anadromous cutthroat), steelhead, and Dolly Varden char inhabit the freshwater and coastal areas within the Woodpecker Project Area. These species contribute to sport, subsistence, and commercial fishing. They also provide food for bear, eagles, mink, otter, and other wildlife. Arctic grayling were transplanted into Wolf Track Lake in 1998. Other species of fish, which do not provide fishing opportunities, such as stickleback and sculpin, are also present.

The lower reaches of larger streams in the Woodpecker Project Area, including reaches within the intertidal zone, contain the bulk of spawning habitat for pink and chum salmon. These species typically do not rear in

fresh water, but emigrate to salt water shortly after emergence. Barriers or breaks in stream gradient that pose little or no problem for other salmonids often impede the upstream migration of pink and chum salmon. In contrast, coho salmon and steelhead ascend such barriers with ease and often are distributed much higher in the drainage basins. Coho salmon may occupy small streams with relatively high gradients. Typically, drainages within the project area with numerous braided side channels and large amounts of instream large woody debris contain the most rearing habitat for juvenile coho salmon.

Aquatic Habitat Management Units

Aquatic Habitat Management Units (AHMUs) are mapping units that display an identified value for aquatic resources. Figure 3-16 displays streams in the Woodpecker Project Area by AHMU class. Class I, II and III streams, and some Class IV streams, were field verified. The Forest Plan uses the following definitions for classes of streams:

Class I - Streams and lakes with anadromous or adfluvial fish habitat; or high quality resident fish waters listed in Appendix 68.1, Region 10 Aquatic Habitat Management Handbook (FSH 2609.24) June 1986; or habitat above fish migration barriers known to be reasonable enhancement opportunities for anadromous fish.

Class II - Streams and lakes with resident fish populations and generally steep (6-15 percent) gradient (can also include streams with a 0-6 percent gradient) where no anadromous fish occur, and otherwise not meeting Class I criteria. These populations have limited fisheries values and generally occur upstream of migration barriers or have other habitat features that preclude anadromous fish use.

Class III - Perennial and intermittent streams with no fish populations but which have sufficient flow or transport sufficient sediment and debris to have an immediate influence on downstream water quality or fish habitat capability. These streams generally have bankfull widths greater than five feet and are highly incised into the surrounding hill slope.

Class IV - Other intermittent, ephemeral and small perennial channels with insufficient flow or sediment transport capabilities to have immediate influence on downstream water quality or fish habitat capabilities. These streams generally are shallowly incised into the surrounding hill slope. Some Class IV streams have been identified during proposed road and unit field reconnaissance.

3 Other Environmental Considerations

Channel Type Classification

The variety of stream conditions encountered in the Tongass National Forest makes it impractical to develop streamside and basin-wide management guidelines that would be applicable to all watersheds. For this reason, the Tongass National Forest uses a channel typing system (Paustian et al. 1992). The channel typing system is used as the foundation upon which aquatic habitat management prescriptions are developed to minimize site-specific fish habitat disturbance.

Process Groups

Hydrologists use stream channel features such as substrate, gradient, large woody debris, side slope characteristics, and riparian vegetation to type and map Tongass National Forest streams. Channel types formed and maintained by similar fluvial and geomorphic processes are grouped for classification purposes into fluvial process groups. These process groups reflect the interrelationship of watershed runoff, physiography, and glacial or tidal influences. Hydrologists use the process groups to predict the physical response of the streams to different management activities.

Channel types are defined by physical characteristics of the channel and landforms through which they flow. Channel types of all Class I, II, and III streams within the Woodpecker Project Area and all Class IV streams in proposed harvest units were field verified using the criteria outlined in the forest-wide channel typing system. This channel type classification system provided key information from which to assist in the development of aquatic habitat management prescriptions to minimize site-specific fish habitat disturbance.

The Forest-wide Riparian Standards and Guidelines are based on these process groups. These standards and guidelines were used for unit and road design (Appendix B). Table 3-34 gives the total miles of each process group by stream class in the Woodpecker Project Area.

Riparian Management Areas

Riparian Management Areas are the areas including water, land, and plants adjacent to perennial streams, lakes, and other bodies of water that are managed for the inherent qualities of the riparian ecosystem. Riparian Management Areas have distinctive resource values and characteristics. Riparian vegetation is important in maintaining stream bank stability and floodplain integrity. Such vegetation slows water velocity on the floodplain while its roots inhibit erosion along streams and riverbanks. Riparian vegetation provides shade, leaf, and needle litter which fuels aquatic food chains, and large woody debris, an important component of instream fish habitat.



Woodpecker Project Area Figure 3-16

Stream Classes

LEGEND

- AHMU Class I
- AHMU Class II
- AHMU Class III
- AHMU Class IV
- Project Area Boundary
- Streams Outside of Project Area
- Existing Road
- Non-National Forest System Lands
- Lakes/Saltwater
- Existing Managed Stands
- Stream Crossings with Fish Passage Concerns

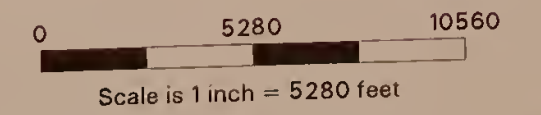




Table 3-34. Miles of Process Group by Stream Class in the Woodpecker Project Area

Process Group	Miles		
	Class I	Class II	Class III
Alluvial Fan	0.4	0.5	0.7
Estuarine	0.2	0	0
Flood Plain	1.8	0	0.1
High Gradient Contained	4.5	21.8	70.4
Large Contained	0.1	0	0
Moderate Gradient	6.5	9.2	3.2
Contained			
Moderate Gradient, Mixed	10.6	1.6	0.3
Control			
Palustrine	1.8	0.8	0.3
Total	25.9	33.9	75

A floodplain is defined as the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum that area subject to a one percent or greater chance of flooding in any given year.

Forest Plan Riparian Standards and Guidelines prohibit most commercial timber harvest in floodplains. Roads may be constructed in or through floodplains subject to the design requirements of Best Management Practices. Where roads cross streams, part of the floodplain may be affected. These effects are minimized by proper design of structures so as not to impede water flow. Effects on floodplains from project activities have been avoided or minimized as much as possible.

Stream Buffers

Stream buffers help to regulate the amount of large woody debris, the temperature, and nutrients in streams. The Tongass Timber Reform Act of 1990 requires riparian buffers to be no less than 100 feet horizontal distance on each side of all Class I streams and those Class II streams that flow directly into Class I streams. Harvest units were designed so that all Class I and II streams and their 100-foot no-cut buffers are outside of unit boundaries (Appendix B). Many stream channel types extend this buffer beyond the 100-foot minimum required by the Tongass Timber Reform Act. In addition, non-fish-bearing Class III streams with average widths of five feet or greater and 15 feet of incision will also have, at a minimum, a no-harvest buffer to the break in slope above the channel. These extended-width, no-cut buffers are applied as identified in the

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Forest-wide Riparian Standards and Guidelines. In addition to no-cut buffers, the Forest Plan standards and guidelines require that an area beyond the no-cut buffers be managed to provide for a reasonable assurance of windfirmness of the Riparian Management Area.

About 20-75 percent of the trees will be retained in most of the harvest units in the action alternatives in addition to the required stream buffers. This additional retention provides extra windfirmness along streams.

Large Woody Debris

Large woody debris consists of trees and logs greater than four inches in diameter and greater than ten feet long. This debris plays an important role in creating channel stability, energy dissipation, and complex fish habitat. Reduction of flow velocities, fish hiding cover, pool scour, and stabilization of channels are often attributed to the presence of large woody debris. Many aquatic insects feed on the decaying woody debris, which provides food for their key developmental stages. Instream large woody debris provides cover for rearing juvenile and migrating adult salmonids. It also serves as the primary channel-forming element in many stream channel types. Large woody debris is an important factor in channel stability and in the formation and maintenance of side channel habitats (Sedell and Duval, 1985).

Under natural conditions, large woody debris of sufficient size to contribute to physical stream processes is supplied by riparian forest. These pieces are generally contributed by small-scale windthrow events, bank undercutting, and side slope sloughs. Gradual contribution of large woody debris through these processes has been shown to effectively replace wood lost through decay or downstream transport (Murphy et al. 1986).

Timber harvest adjacent to streams can alter the rate of contribution and loss of large woody debris. The placement of windfirm buffers along streams will help provide a continuous source of large woody debris.

Stream Temperature

Water temperature is an important regulator of stream biological productivity. Metabolic rates of fish and other aquatic organisms are both directly related to temperature. Decreasing the amount of shade provided by streamside trees can increase the water temperature and decrease the amount of dissolved oxygen that the water can hold.

While high stream temperatures are generally not a concern in cool and cloudy areas, a reduction in forest cover along some relatively small, low

gradient, muskeg-fed streams could increase peak summer water temperatures. These potential increases in temperature could have a series of complex, interacting negative effects on aquatic resources (MacDonald, 1991). By leaving riparian management areas along streams, no thermal increases are expected within Class I, II, and III streams. Approximately 20-75 percent of the trees will be retained in the harvest units in the action alternatives in addition to the required stream buffers. This additional retention provides extra windfirmness along streams.

Effects on Fisheries

Effects on Fish Passage

Migration is essential for many fish species on the Tongass National Forest. Anadromous fish (fish that migrate from the ocean to freshwater to spawn) require access to spawning habitat. Juvenile anadromous fish migrate during their freshwater life stage, seeking seasonal habitats. Resident fish (fish that spend their entire life in freshwater) also may migrate seasonally in response to food, shelter, and spawning needs.

Providing for fish passage at stream and road intersections to ensure fish migration is an important consideration when constructing or reconstructing forest roads. Improperly located, installed or maintained stream crossing structures can restrict these migrations, thereby adversely affecting fish populations. These structures can present a variety of potential obstacles to fish migration. The most common obstacles are excessive vertical barriers, debris blockages, and extreme water velocities that inhibit fish passage.

The Forest Plan provides standards and guidelines to ensure the natural migration of anadromous and adfluvial (Class I streams) and resident (Class II streams) fish populations. Fish passage is provided through properly designed culverts and bridges. The Forest Plan, the Soil and Water Conservation Handbook and the Aquatic Habitat Management Handbook provide the specific direction to be used on bridge and culvert construction, placement, and erosion reduction at stream crossings. All proposed fish stream crossings in this project will follow the Interim Standards and Guidelines for Fish Passage Installations. See Table 3-37 for the proposed stream crossings.

Existing Stream Crossings

The Petersburg Ranger District has an ongoing Road Condition Survey program, which, among other things, monitors stream crossings for fish passage on existing roads. The data from the Road Condition Survey was used in a computer model to identify potential fish passage problems. No fish passage problems were found on any Class I anadromous fish

3 Other Environmental Considerations

streams within the Woodpecker Project Area. Five potential fish passage problems were identified on Class II resident fish stream crossings on Road 6245. These five crossings had field investigations and were found to have conditions that did not meet the fish passage model criteria and could have the potential to restrict fish passage. These stream-crossing structures are identified in the proposed Road Management Objectives in Appendix B. Since it was possible to begin to improve these sites during the 2001 field season, a separate project decision was completed for these sites and for the watershed improvement projects based on the environmental analysis.

In order to begin to correct fish passage problems at the 38 sites identified on Mitkof Island to meet the model criteria, a contract was awarded to do survey and design of the necessary modifications needed to correct the problems at 29 sites in fiscal year 2001. Reconstruction of these culverts was completed in the summer of 2002. Four of the five sites within the Woodpecker Project Area were included in this contract. The other site was found after further analysis to have only about 30 square meters of fish habitat upstream. Interagency agreement prioritized replacement at this time to other sites on Mitkof Island with higher priority fish passage problems.

Proposed Stream Crossings

In Alternatives 4 and 5, a temporary bridge on Road 6284 over a Class II stream would be required to access helicopter landing areas from Units 81a and 82. The bridge would be removed after timber harvest is complete.

There would be 17 new stream crossings associated with new road construction for Alternatives 2 and 6. Two of these crossings involve streams with resident fish. Alternative 5 would have 15 new stream crossings, including two crossings of resident fish streams. Alternatives 3 and 4 propose the same two new stream crossings, one of which is a resident fish stream. All new stream-crossing structures in fish-bearing streams will be installed to ensure passage of fish.

Fish bearing streams generally require timing restrictions for construction of structures to minimize impact on young fish. The Alaska Department of Fish and Game (ADF&G) has established fish timing at individual sites within the Woodpecker Project Area using criteria such as stream class, fish species present and proximity to other fish-bearing streams. Periods during which construction may occur at fish streams in the Woodpecker Project Area are shown on the Road Cards in Appendix B.

Effects on Fishing Access

Mitigation of increased public fishing access can be accomplished by closing roads to vehicle traffic after timber harvest is completed. Alternatively, the potential for over-harvest of fish can be reduced through the use of fishing regulations that limit take, legal fishing gear, seasons, etc. Although fishing pressure is likely to increase in areas of new road construction, it is unlikely that over-harvest would occur.

Effects on Fish Populations

Potential impacts to fish populations from timber harvest and roads include increased sediment in streams, higher stream temperatures, barriers to fish passage, and increased fishing pressure. None of these impacts resulting from the proposed activities are expected to be significant, and mitigation measures should help to reduce impacts where they occur. Consequently, fish populations in the Woodpecker Project Area are not expected to decline.

Grayling Transplant in Wolf Track Lake

Wolf Track Lake on the western part of the Woodpecker Project Area is approximately two acres in size. It is naturally blocked to fish migration. Lake analysis was conducted to determine the suitability of the site for arctic grayling. During the summer of 1998, ADF&G and the Forest Service transplanted approximately 250 arctic grayling from Kane Lake on the north end of Kupreanof Island to Wolf Track Lake. There were no anadromous or resident fish present in the lake prior to this transplanting. During the summer of 1999, Forest Service personnel verified arctic grayling survival at the lake. Fishing will be allowed at Wolf Track Lake when ADF&G determines that the arctic grayling population has been established.

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act of 1996 requires consultation with the National Marine Fisheries Service on activities which may affect "Essential Fish Habitat," defined as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity." The Act promotes the protection of these habitats through review, assessment, and mitigation of activities that may adversely affect these habitats. The analysis done for this EIS satisfies the consultation requirements by providing:

1. A description and assessment of Essential Fish Habitat in the Woodpecker Project Area:

Essential Fish Habitat includes all freshwater streams accessible to anadromous fish, marine waters, and intertidal habitats. For the Woodpecker Project Area, this would include all Class I

3 Other Environmental Considerations

streams, and the marine waters and intertidal habitats at the Woodpecker Project Area shoreline.

2. An analysis of individual and cumulative effects of the proposed activities on Essential Fish Habitat, the managed species, and associated species such as major prey species, including affected life histories:

The managed species in the Woodpecker Project Area are coho, pink, and chum salmon. Adults of these species spawn in the lower reaches of watersheds with planned upstream timber harvest and road construction. Salmon eggs incubate in those streams and juvenile coho rear in the streams, downstream from the proposed activities. Juvenile coho feed predominantly on aquatic and terrestrial insects. The other fish species and life stages generally do not feed in freshwater.

The Forest Service anticipates no detectable effects on the managed fish species due to implementation of the Woodpecker Project. We will implement the Forest Plan standards and guidelines for protection of fish habitat and the applicable Best Management Practices (BMPs). These standards and guidelines and BMPs have been developed through interagency negotiation and are believed to provide "state of the art" protection of fish habitat. The individual and cumulative effects on water quality and fish habitat are fully described elsewhere in this Chapter and will not be repeated here.

3. The Forest Service's views regarding effects on Essential Fish Habitat:

The proposed activities and their potential impacts are disclosed throughout this document. Site-specific activities are displayed on the activity cards in Appendix B.

4. A description of the mitigation measures that will be implemented to protect these habitats:

Essential Fish Habitat is carefully protected in the Forest Plan and in the design of activities proposed in the Woodpecker Project Area. The proposed activities within the Woodpecker Project Area are unlikely to adversely affect Essential Fish Habitat for the following reasons:

- a. Partial harvest is proposed in most units. Studies are currently being conducted to show the relationship between partial harvest and the effect on stream ecosystems.
- b. Proposed new roads cross no Class I streams. This will eliminate the need for any in-stream work that could directly affect anadromous fish habitat.

- c. All harvest units adjacent to Class I streams employ no-harvest buffers at least 100 feet wide and generally wider according to Forest Plan standards and guidelines. This will protect anadromous fish streams from bank erosion and stream temperature increases.
- d. All harvest units adjacent to Class II and Class III streams employ no-harvest buffers according to Forest Plan standards and guidelines. This will minimize the amount of sediment that flows downstream and enters anadromous fish streams.
- e. The Woodpecker Cove LTF complies with NPDES requirements. No bark accumulation was observed in the most recent dive study of the area (September 2000). A copy of the Dive Report is in the Woodpecker Project Area planning record. The site is adaptable to log barging operations.
- f. The Best Management Practices described in unit and road cards (Appendix B) provide assurance of water quality and aquatic habitat protection for all freshwater streams and marine waters affected by the project.

A copy of the Woodpecker Project Area Draft EIS was provided to the National Marine Fisheries Service. No response was received from NMFS, which indicates concurrence with these conclusions.

Watersheds

Forest management activities affect water quality and quantity, and the timing of water flows, through alteration of soil and watershed conditions. Most watersheds are in a state of dynamic equilibrium where changes occur naturally due to changes in weather patterns. Because of the overriding influence of climate and basin resiliency, changes in streamflow and sediment delivery resulting from management activities (such as timber harvest) are difficult to measure.

The physical components of watersheds include climate and precipitation, soil, and streams. The biological factors include forest and plant processes, and riparian vegetation along streams, which directly affects fish habitat.

A Watershed Cumulative Effects (WCE) Analysis is required by the National Environmental Policy Act and is needed to address mandates of the Clean Water Act, National Forest Management Act, and the Safe Drinking Water Act. This analysis is conducted to determine the effects on beneficial uses of water (fish habitat) caused by multiple land management activities. This analysis is designed to provide background information and analysis of the 33,000-acre Woodpecker Project Area.

3 Other Environmental Considerations

Consideration will be given to all management activities likely to occur within the next ten years (the reasonably foreseeable future).

There are 75 watersheds within the Woodpecker Project Area, ranging in size from 2 acres to 7,950 acres. Eight watersheds containing fish habitat may be affected by proposed activities. These watersheds are shown on Figure 3-17. These watersheds contain approximately 18 miles of streams used by anadromous fish (Class I) and an additional 31 miles of resident fish streams (Class II). Approximately 55 miles of streams that do not contain fish habitat but are at least five feet wide and have an incision depth greater than 15 feet (Class III) drain into these fish-bearing streams.

Sedimentation of Streams

Sediment is water-transported gravel, sand, and silt. Gravel and sand generally move along the stream bottom. Silt is generally suspended and causes water to appear cloudy. The amount of sediment is influenced by the velocity and amount of water available for transport. Road construction may result in short-term and long-term increased sediment levels in streams. Erosion occurs as a result of road construction, and may occur during log yarding. The risk of sedimentation as a result of timber harvest activities is generally low because of a deep organic covering over mineral soils. Logging slash covering the soil surface will add to this protection. Rapid regrowth of vegetation will ensure minimal impact.

Effects of Timber Harvest on Watersheds

Improper timber harvest procedures can lead to soil instability, mass wasting, stream sedimentation, and altered stream flows. Additionally, changes in rainwater interception, plant transpiration, and snow accumulation can alter the timing and magnitude of peak or base flow runoff in harvested areas.

Table 3-35 lists watersheds in the Woodpecker Project Area that contain fish habitat and that will have proposed timber harvest and/or road construction. None of these watersheds have had more than 20 percent of their areas harvested within the past 30 years (Table 3-36). Twenty percent harvest within 30 years is a threshold value presented in the Forest Plan, Appendix J. Beyond this level, further watershed analysis may be appropriate before additional harvest occurs.

The number of acres harvested is an indication of the probability of altering watershed response. Table 3-31 in the Vegetation and Timber Resources section of this chapter displays the total number of acres within proposed harvest units by alternatives.



Woodpecker Project Area
Figure 3-17
Watersheds

LEGEND

- Non-National Forest System Lands
- Lakes/Saltwater
- Streams
- 500ft Contours
- Watershed Boundary
- Existing Road
- Project Area Boundary
- Stream Crossings with Fish Passage Concerns

Chapter 3-157

0 5280 10560

Scale is 1 inch = 5280 feet

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Table 3-35. Watersheds and Miles of Streams in the Woodpecker Project Area

Watershed	Total Watershed Acres	ADFG Stream Number	Miles of Class I, II, and III Streams	Anadromous or Resident Fish?
1	7,950	108-40-10450	51.2	Both
2	4,460	108-30-10200	18.8	Both
3	3,880	108-40-10500	10.8	Both
4	2,850	106-44-10410	14.2	Both
5	1,380	104-30-2002	5.0	Both
6	680	106-44-10420	2.9	Both
7	290	None	0.8	Both
8	130	None	0.7	Resident only

Table 3-37 displays the total number of acres proposed for harvest that would result in a second growth stand. Table 3-38 shows the percent of each watershed that would be harvested after each alternative. This includes second-growth stands less than 30 years old and proposed harvest units with more than 70 percent tree removal or where openings will be created.

Even though 20 to 30 percent of the existing canopy will be retained in the two-aged management units, all acres within units with those prescriptions were considered as being harvested. The calculations for cumulative percent harvested were based on the 30-year period beginning in 1970. Many of the stands that were clearcut within these watersheds were harvested during the 1970s. Within the next decade, the amount of harvest within these watersheds that may affect watershed health will decrease dramatically. Already these stands have regenerated with trees to the point that the sites are completely revegetated.

The calculations show that Alternative 5 would harvest the most acres and would exceed the threshold for 20 percent of the watershed in openings less than 30 years old in Watershed #7. Watershed #7 is a small 290-acre watershed that drains into South Blind Slough. The upper portions of the watershed are relatively steep, while the lower portions have gentle slopes. Review of an existing clearcut harvest unit cut in 1978 indicated that timber harvest has not caused mass movement of the soil. A total of 20 acres is proposed for partial harvest in Alternative 5, with retention of 20-30 percent of the stand. No other watershed would exceed the 20 percent threshold in any alternative. After 2008, the percentage of the watershed harvested less than 30 years old would

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decrease to 6.9 percent. Since the proposed unit in Alternative 5 may be sold as a small sale, this unit could be scheduled later than some of the other units.

Effects of Road Construction

The State of Alaska anti-degradation policy prohibits reduction in the quality of water to support fish, shellfish, wildlife and recreation even if the water quality exceeds levels necessary to support these uses. However, the Alaska Forest Practices Act allows for short-term (48 hours) variances from state standards during construction activities.

Field reconnaissance of proposed road routes showed that most roads near Class I and II streams are on slopes less than 30 percent where there is relatively little risk of adversely affecting water quality. Some roads near Class III streams are on steeper slopes (30-45 percent) and present a slightly greater risk to water quality. All proposed new road locations have avoided high hazard unstable soils in all alternatives.

Higher miles of road construction indicate higher potential for road related sedimentation. See the Transportation section of this chapter for the miles of new roads proposed in each alternative. Table 3-39 shows the number of new stream crossings in each watershed by stream class and miles of road for each alternative.

Grass seeding routinely done along forest roads on the Tongass National Forest can reduce the risk of erosion (Burroughs and King, 1989). Successful seeding along roads and identification of any needed reseeding will be monitored.

Table 3-36. Acres and Percentage of Watershed Area Harvested During the Past 30 Years

Watershed	Miles of Class I, II, and III Streams	Total Watershed Acres	Total Watershed Acres Harvested Over Past 30 years	Percent of Watershed Harvested Over Past 30 years
1	51.2	7,950	340	4.3
2	18.8	4,460	480	10.8
3	10.8	3,880	320	8.3
4	14.2	2,850	0	0.0
5	5.0	1,380	90	6.5
6	2.9	680	20	2.9
7	0.8	290	50	17.2
8	0.7	130	< 1	0.8

Table 3-37. Acres Previously Harvested and Proposed for Harvest by Alternative in Each Watershed

Watershed	Total Watershed Acres	Acres Previously Harvested (Alt. 1) and Proposed Harvest Acres (Alts 2-6)					
		Alt. 1 ¹	Alt. 2 ²	Alt. 3 ²	Alt. 4 ²	Alt. 5 ²	Alt. 6 ²
1	7,950	340	240	60	120	500	240
2	4,460	480	90	50	100	350	50
3	3,880	320	20	20	20	0	20
4	2,850	0	40	60	50	80	40
5	1,380	90	0	0	0	60	0
6	680	20	10	10	20	20	10
7	290	50	~2	~2	~2	20	~2
8	130	<1	0	0	0	10	0

¹ Acres previously harvested in past thirty years (existing condition)

² Proposed timber harvest acres with less than 50% retention, or openings created by group selection.

Table 3-38. Cumulative Percent Harvested in Past Thirty Years by Watershed

Watershed	Total Watershed Acres	Cumulative Percent Harvested					
		Alt. 1 ¹	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
1	7,950	4.3	7.3	5.0	5.8	10.6	7.3
2	4,460	10.8	12.8	11.9	13.0	18.6	11.9
3	3,880	8.2	8.8	8.8	8.8	8.2	8.8
4	2,850	0	1.4	2.1	1.8	2.8	1.4
5	1,380	6.5	6.5	6.5	6.5	10.9	6.5
6	680	2.9	4.4	4.4	5.9	5.9	4.4
7	290	17.2	17.9	17.9	17.9	24.1	17.9
8	130	<0.8	<0.8	<0.8	<0.8	8.5	<0.8

¹ Percent previously harvested (existing condition)

3 Other Environmental Considerations

Stream Crossings

The number of times roads cross streams in a watershed is expressed as the number of stream crossings per square mile of watershed area, and is shown for the Woodpecker Project Area in Table 3-40. There can be a correlation between the number of stream crossings and the amount of fine sediment found in the streambed farther downstream.

Some short-term sediment increase is expected when new crossings are constructed. State water quality standards allow short-term increased turbidity for periods up to 48 hours during culvert installation. Adoption of the mitigation measures, such as timing of construction in streams, in addition to Best Management Practices routinely used, should minimize the likelihood of water-related cumulative effects to either the streams or estuaries.

Proposed Watershed Improvements

A slide identified within a former harvest unit in Watershed #2 is proposed to be planted with alder in Alternatives 2, 4, 5, and 6. Alder is the species most likely to eventually recolonize landslides on the Tongass National Forest and should be used to both accelerate and mimic natural recovery. The Watershed Improvement Cards in Appendix B give specific locations of road-related erosion problem sites within the Woodpecker Project Area identified during the 1999 and 2000 field seasons.

Alternatives 2, 3, 4, 5, and 6 propose to remove all drainage structures from ten miles of existing classified roads in the Woodpecker Project Area. These roads have become over-grown with alder. Roads to be physically closed and placed in storage include 6280, 6281, 6283, 6284, 6287, and 40083. See the Road Management Objectives in Appendix B.

Five stream crossings on Road 6245 that have the potential to restrict fish passage would be reconstructed to meet design criteria to ensure fish passage.

Consumptive Uses

There are no municipal water sources in the Woodpecker Project Area. There is a domestic water supply for a special use residential cabin located at December Point. Two units, 148 and 148a, are located above the headwaters of the stream that is used for water.

Ohmer Creek campground and day-use area, a ten-unit developed recreation site, is located ½ mile outside the Woodpecker Project Area. The drinking water for the campground is hauled from the City of Petersburg municipal water plant. The west fork of Ohmer Creek (Watershed #3) flows into the main branch about 1/8 mile north of the campground. Visitors to the campground use Ohmer Creek for fishing

and a barrier-free trail with fishing access parallels Ohmer Creek north of the campground on the opposite side of the creek.

Direct Effects

The level of proposed harvest and road construction in the various alternatives is within the range considered acceptable in the Forest Plan. Because of the mitigation measures employed during timber harvest and road construction, only short-term increases in sediment delivery are expected at the time of road construction.

Alternative 1

No new effects to fish habitat are expected. The stream crossing structures on Road 6245 that have the potential to restrict fish passage would not be corrected as part of this project.

No timber would be harvested at this time. No new road construction would occur. Drainage structures would not be removed from existing roads that have been grown over with alder. There would be no effects on any consumptive uses of water.

Table 3-39. Number of Proposed Stream Crossings by Stream Class in the Woodpecker Project Area

Watershed	Number of Proposed Stream Crossings						Miles of New Classified Road ¹			Miles of New Temporary Road ²				
	Stream Class	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 2	Alt. 5	Alt. 6	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
1	II	1	-	-	1	1	4.0	3.5	4.0	1.8	1.5	0.7	1.5	1.8
	III	11	-	-	10	11								
	IV	1	-	-	1	1								
2	III	1	-	-	-	1	0.8	-	0.8	2.7	1.3	0.8	1.1	0.5
	IV	1	-	-	1	1								
4	-	-	-	-	-	-	-	-	-	0.8	0.8	0.8	0.8	0.8
6	III	1	1	1	1	1	-	-	-	0.1	0.1	0.1	0.1	0.1
8	II	1	1	1	1	1	-	-	-	0.2	0.2	0.2	0.2	0.2

¹ Alternatives 3 and 4 have no new classified road.

² Some temporary roads are not within the eight watersheds analyzed.

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Table 3-40. Existing Stream Crossings per Square Mile in the Woodpecker Project Area

Watershed	Total Watershed Area in Square Miles	Total Number of Road Crossings	Number of Road Crossings Per Square Mile
1	12.4	12	1.0
2	7.0	4	0.6
3	6.1	7	1.2
4	4.5	2	0.4
5	2.2	5	2.4
6	1.1	8	7.3
7	0.5	2	4
8	0.2	1	5

Alternative 2

No adverse effects to fish habitat are expected due to the mitigation measures, such as riparian buffers and timing restrictions for in-stream construction. Five stream crossings on Road 6245 that have the potential to restrict fish passage would be reconstructed to meet design criteria to ensure fish passage.

About 400 acres that would be harvested will retain less than 50 percent of the trees within six of the eight watersheds analyzed. No watershed exceeds the 20 percent threshold of acres of second-growth timber less than 30 years old. About 4.8 miles of classified road and 6.1 miles of temporary road would be constructed with 17 stream crossings. Two of these crossings would be on streams with resident fish. Of this new road, 1.8 miles would remain open. About ten miles of roads that have been grown over with alder would have the drainage structures removed and would be put into storage.

Erosion control work proposed on existing problem areas will reduce the risk of erosion.

No effect would occur on any consumptive uses of water.

Alternative 3

No adverse effects to fish habitat are expected due to the mitigation measures, such as riparian buffers and timing restrictions for in-stream construction. Five stream crossings on Road 6245 that have the potential to restrict fish passage would be reconstructed to meet design criteria to ensure fish passage.

About 210 acres that would be harvested will retain less than 50 percent of the trees within six of the eight watersheds analyzed. No watershed would exceed the 20 percent threshold of acres of second-growth timber less than 30 years old. No new classified road would be constructed. About 3.9 miles of temporary road would be constructed with two stream crossings. One of these crossings is on a stream with resident fish. About ten miles of roads that have been grown over with alder would have the drainage structures removed and would be put into storage. This alternative would have the least effect on water quality.

Erosion control work proposed on existing problem areas will reduce the risk of erosion.

No effect would occur on any consumptive uses of water.

Alternative 4

No adverse effects to fish habitat are expected due to the mitigation measures, such as riparian buffers and timing restrictions for in-stream construction. Five stream crossings on Road 6245 that have the potential to restrict fish passage would be reconstructed to meet design criteria to ensure fish passage.

About 310 acres that would be harvested will retain less than 50 percent of the trees within six of the eight watersheds analyzed. No watershed exceeds the 20 percent threshold of acres of second-growth timber less than 30 years old. No new classified road would be constructed. About 3.1 miles of temporary road would be constructed with a total of two stream crossings. One of these crossings is on a stream with resident fish. About ten miles of roads that have been grown over with alder would have the drainage structures removed and would be put into storage.

Erosion control work proposed on existing problem areas will reduce the risk of erosion.

No effect would occur on any consumptive uses of water.

Alternative 5

No adverse effects to fish habitat are expected due to mitigation measures such as riparian buffers and timing restrictions for in-stream construction. Five stream crossings on Road 6245 that have the potential to restrict fish passage would be reconstructed to meet design criteria to ensure fish passage.

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About 1,040 acres proposed for partial harvest will retain less than 50 percent of the trees within 7 of the 8 watersheds analyzed. One watershed would exceed the 20 percent threshold of acres of second-growth timber less than 30 years old until 2008, unless the timing of the harvest is delayed until then.

About 3.5 miles of classified road and 4.1 miles of temporary road would be constructed with a total of 15 stream crossings. Two of these crossings would be on streams with resident fish. Of this new road, one mile would remain open for public use. About ten miles of roads that have been grown over with alder would have the drainage structures removed and would be put into storage.

Erosion control work proposed on existing problem areas will reduce the risk of erosion at those sites.

No effect would occur on any consumptive uses of water.

Alternative 6

No adverse effects to fish habitat are expected due to mitigation measures such as riparian buffers and timing restrictions for in-stream construction. Five stream crossings on Road 6245 that have the potential to restrict fish passage would be reconstructed to meet design criteria to ensure fish passage.

About 420 acres that would be harvested will retain less than 50 percent of the trees within the eight watersheds analyzed. No watershed exceeds the 20 percent threshold of acres of second-growth timber less than 30 years old. About 4.8 miles of classified road and 3.8 miles of temporary road would be constructed with 17 stream crossings. Two of these crossings would be on streams with resident fish. Of this new road, 1.8 miles would remain open. About ten miles of roads that have been grown over with alder would have the drainage structures removed and would be put into storage.

Erosion control work proposed on existing problem areas will reduce the risk of erosion. No effect would occur on any consumptive uses of water.

Cumulative Effects

Most of the current clearcut harvest in the Woodpecker Project Area occurred in the 1970s and early 1980s. These stands have almost reached the age where watershed health is no longer a concern. No other timber harvest on National Forest System land is currently planned on the ten-year timber sale schedule within the Woodpecker Project Area.

The State of Alaska's proposed management of state lands in the project area is to use partial harvest on most of the area in the southern block of state land. Clearcut harvest would be kept to a minimum. Some areas of state land in the northwest portion of the Woodpecker Project Area have been designated for wildlife habitat. No timber harvest is currently planned on state land in the Woodpecker Project Area at this time.

The stream in Watershed #3 (ADFG stream # 108-40-50) drains into Ohmer Creek just downstream of the bridge on Road 6245. The main branch of Ohmer Creek drains the eastern part of Mitkof Island. The proposed Overlook Project Area, which will include timber harvest, is partly drained by this stream.

A riparian improvement project has been approved for the main branch of Ohmer Creek outside of the Woodpecker Project Area. This project will provide in-stream structures for fish habitat, reduce erosion from Road 40010, create off-channel fish rearing ponds, and manage the adjacent second-growth to promote an uneven-aged stand and more rapid development of future large woody debris.

The outlet of Man-Made Hole, a recreation site to the north of the Woodpecker Project Area, also partially drains into Ohmer Creek. The improvement at this site includes a new parking lot, sanitation facilities, and improvements to the picnic site and trail. No cumulative effects from these two projects to fisheries habitat or campground use are expected.

Through the implementation of the Forest Plan standards and guidelines including Best Management Practices, no significant cumulative effects on the water quality and fish habitat are expected to occur. Erosion control work proposed on existing problem areas will reduce the risk of erosion at these sites.

Air Quality

All of the action alternatives will have limited, short-term effects on ambient air quality. Such effects, in the form of vehicle emissions and dust, are likely to be indistinguishable from other local sources of airborne particulates, including other motor vehicle emissions, dust from road construction and motor vehicle traffic, residential and commercial heating sources, marine traffic, and emissions from burning at sawmills. The action alternatives could result in short-term supplies of raw wood products to local mills. It is the responsibility of the mill owner to ensure that mill emissions are within legal limits.

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Wetlands

Wetlands are defined as those areas that are inundated or saturated by surface or groundwater with a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Generally, wetlands are those sites that remain water-saturated long enough for certain wetland plant species, such as skunk cabbage or sphagnum moss, to dominate and for certain soil characteristics to develop.

Wetlands are sites which generally have both saturated soils for at least a portion of the year and vegetation which is adapted to wet sites. Wetlands are valued for their physical, chemical and biological functions. Wetlands moderate flooding, reduce runoff and sedimentation, provide wildlife and plant habitat, and may help sustain stream flow during dry periods. Physical functions may include flood conveyance, surface and ground water regulation, sediment retention, and temperature moderation. Chemical functions may include nutrient storage, pH moderation, and carbon storage. Biological functions include habitat for terrestrial, aquatic, and marine plants and animals. Additionally, forested wetlands are an important component of the forest land base.

Distribution and Types of Wetlands

Like much of Southeast Alaska, the Woodpecker Project Area contains a large proportion of wetlands, about 41 percent of the area. Different wetland types are found from sea level to mountaintop. Resource values associated with these wetlands vary, depending on biological qualities, proximity to water bodies, and the position on the landscape. Table 3-39 describes the wetland habitat types in the Woodpecker Project Area.

Two of the most valuable wetland types are fens and estuarine wetlands. Fens are important for a variety of wildlife species, both resident and migratory. The only fen in the Woodpecker Project Area is located in the headwaters of Watershed #1. No proposed timber harvest units or roads would affect this fen. There are no estuarine wetlands located within the borders of the Woodpecker Project Area. South Blind Slough is an estuary adjacent to the southeastern portion of the project area. Estuaries are protected by Forest Plan standards and guidelines with at least a 1,000-foot buffer. This buffer includes the extent of salt-tolerant vegetation.

Management Activities on Wetlands

The Forest Service is required by Executive Order 11990 and Section 404 of the Clean Water Act to preserve and enhance the natural and beneficial values of wetlands wherever practicable when carrying out its land management responsibilities. Timber harvest and road construction may affect wetlands, but mitigation measures are used to minimize the effects.

Timber Harvest

Many of the forested wetland soils are capable of supporting forests suitable for timber production and were included in the suitable timber base during the analysis of the Forest Plan. Site productivity for tree growth is generally lower than on sites with better drainage. Regeneration is expected to occur within five years, just as with other forested sites.

Past harvest on forested wetlands involved about 170 acres within the Woodpecker Project Area. These acres were clearcut harvested and mainly involved the edges of the harvest units on forested wetland sites or forested wetland/muskeg mosaic. Harvest on wetlands was generally avoided due to low timber volume on wetlands.

Proposed timber harvest units for all action alternatives do have portions of the unit within various wetland types. Unit design will establish the edges of the boundary where the wetland changes from productive, suitable timber to unsuitable timber. Partial harvest would avoid the sites that are not classed as suitable for timber production. Inclusions of non-forest, such as muskeg, can be avoided with the logging system design. Table 3-42 displays the number of acres of wetland within timber harvest units by alternative.

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Table 3-41. Wetland Habitat Types in the Woodpecker Project Area

Wetland Habitat Type	Description	Wetland Acres	% of Project Area
Muskeg	Muskegs are most commonly found in broad valley bottoms and on rounded hilltops. Muskegs are dominated by sphagnum moss with a wide variety of other plants adapted to very wet, acidic, organic soils. They typically contain some stunted lodgepole pine trees. These wetlands function as areas for recharge of groundwater and streams and for deposition and storage of sediment and nutrients. They are a valuable source of biological and vegetative diversity.	1,270	4
Alpine/Subalpine Forest/ Muskeg Mosaic	Vegetation is a combination of muskeg and sedge meadows on peat deposits, and low growing blueberry and heath on higher rises. Stunted lodgepole pine and mountain hemlock are common. These wetlands are important for snow storage and can be a source for snowmelt water throughout the summer. They also provide summer habitat for terrestrial wildlife species. These wetlands are located at elevations of 1,200 to 2,500 feet.	2,350	7
Estuarine Wetlands	Estuaries are unique brackish environments where fresh water mixes with salt water. Estuarine wetlands support complex and productive ecosystems for critical fish and wildlife habitat. Grasses and sedges are the dominant species in the upper tidal zone. Common plants on the upper beaches include beach-carrot, beach pea, large-headed sedge, paintbrushes, and lupine. Estuaries are protected by Forest Plan standards and guidelines with at least a 1,000-foot buffer.	0	0
Forested Wetland	Forested wetlands include a number of forested plant communities with hemlock, cedar, or mixed conifer overstories, and ground cover consisting largely of skunk cabbage and deer cabbage. They produce commercial forest products. These wetlands function as recharge areas for groundwater and streams, and for deposition of sediment and nutrients.	2,420	8
Muskeg/Forested Wetland Mosaic	These wetlands are characterized by small patches of muskegs and forested wetlands as described above arranged in a mosaic pattern on the landscape. These areas have vegetative properties of both muskegs and forested wetlands, but function somewhat differently with respect to habitats due to their small size and spatial arrangement.	6,900	22
Emergent Sedge Muskeg (Sedge Fen)	Fens are characterized by a diverse community of sedges and forbs and occasional stunted trees, usually spruce or hemlock. They occur in landscape positions where they receive some runoff from adjacent slopes resulting in somewhat richer nutrient status than muskegs. These wetlands function as areas for recharge of groundwater and streams, deposition and storage of sediment and nutrients, and for waterfowl and terrestrial wildlife habitat.	30	(<.1)
Total		12,970 Acres	41 Percent

Table 3-42. Acres of Wetland Within Proposed Timber Harvest Units

Wetland Type	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Muskeg	0	6	6	6	6	6
Alpine/Subalpine Forest/ Muskeg Mosaic	0	2	0	18	12	2
Forested Wetland	0	43	43	130	118	41
Muskeg/ Forested Wetland Mosaic	0	137	74	214	203	129

Road Construction The most direct effect on wetlands would be the fill associated with road construction. The construction of classified roads that would be used for long-term management would remove those portions of wetlands from production, indefinitely eliminating some of their biological functions. Within the Woodpecker Project Area, there are approximately 17 miles of existing open roads located on wetlands.

The amount, frequency, and distribution of wetlands in the Woodpecker Project Area make it impossible to avoid locating roads on some wetlands. Proposed roads in the project area are designed to avoid wetland areas, where feasible. None of the most biologically significant wetlands would be affected by road construction. In a few locations, crossing a wetland area reduced the overall environmental impacts of a particular road by avoiding steep slopes or aligning the road perpendicular to a stream crossing. To reduce road impacts at these sites, frequent road cross drains will be constructed. To avoid artificial interception of water by roads, free-draining coarse textured rock will be used in road foundations, and installation of adequate size and numbers of culverts will be required. Drainage structures will be removed on all temporary roads. Changes in wetland flows are expected to be minimal.

Table 3-43 shows the miles of wetland crossed by proposed road construction. Road locations relative to wetlands are found in the Road Cards in Appendix B.

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Table 3-43. Proposed Classified and Temporary Road Miles Crossing Wetlands in the Woodpecker Project Area

Wetland Type	Classified Roads						Temporary Roads					
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Muskeg	0	0.1	0	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1
Forested Wetland / Upland Mosaic	0	0.1	0	0	0.1	0.1	0	0	0	0	0	0
Muskeg / Forested Wetland Mosaic	0	0.9	0	0	0.9	0.9	0	0.9	0.7	0.6	0.6	0.4

Recreation Access Projects

The proposed trail from Road 40003 to a picnic site will cross a few hundred feet of muskeg wetland. In order to mitigate this impact, a hardened surface such as gravel or boardwalk will be used to encourage recreational users to stay on the trail. This will reduce damage to vegetation from foot traffic.

The parking turnouts that will be constructed may impact wetlands by adding fill at several sites. This would affect a total area of less than ½ acre. Drainage around these turnouts will be maintained.

Corps of Engineer permits will be obtained for these projects, if required by the design.

Direct Effects

The following comparisons have been made based on road construction, timber harvest operations, and recreation projects. Silvicultural operations, such as timber harvest and the construction of roads are generally exempt from the Section 404 permitting requirements. This exemption is contingent on the incorporation of the Best Management Practices to mitigate the effects of these activities.

Alternative 1

Alternative 1 will have no effect on wetlands. All of the existing wetland functions will remain the same.

Alternative 2

Alternative 2 would build about 1.1 miles of classified road across wetlands, affecting about 6 ¾ acres of wetlands. About 1 mile of temporary road would affect about 3 acres of wetlands. All of the

proposed units would be partially harvested and would be logged using ground-based systems. Because of the acres affected by road construction, this alternative would have a greater effect on wetlands than Alternative 4, even though less timber would be harvested.

Alternative 3

Alternative 3 would not build any classified road across wetlands. It would build about 0.8 miles of temporary road across wetlands, affecting about 2.4 acres. All of the proposed units would be partially harvested and would be logged using ground-based systems. This alternative would have the least effect on wetlands.

Alternative 4

Alternative 4 would not build any classified road across wetlands. It would build about 0.7 miles of temporary road across wetlands, affecting about 2.1 acres. All of the proposed units would be partially harvested and would be logged using either ground-based systems or helicopter logging. This alternative would have less effect on wetlands than Alternative 2 or Alternative 5.

Alternative 5

Alternative 5 would build about 1.1 miles of classified road across wetlands, affecting about $6\frac{2}{3}$ acres. It would build about 0.7 miles of temporary road across wetlands, affecting about 2.1 acres. All but three of the proposed units would be partially harvested and would be logged using either ground-based systems or helicopter logging.

Alternative 6

Alternative 6 would build about 1.1 miles of classified road affecting about $6\frac{2}{3}$ acres of wetlands. It would build about $\frac{1}{2}$ mile of temporary road across wetlands, affecting about $1\frac{1}{2}$ acres. All of the proposed units will be partially harvested and all but six of the proposed units would be logged using ground-based systems. This alternative would have fewer effects on wetlands than Alternative 2 because it includes fewer acres of wetlands within harvest units.

Cumulative Effects

Because of the vast expanse of wetlands within Southeast Alaska, the cumulative effects of this and other projects on wetlands are expected to be minor. Many of the prime wetland habitats on the Tongass National Forest have been protected either by land use designations or by standards and guidelines specifically addressing wetlands.

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Transportation and Facilities

National Forest System Road Management Rule

The National Forest System Road Management Rule (Roads Rule), signed 1/3/01, amended the Forest Transportation System Manual (FSM 7700) to reflect changes in policy and terminology. The policy developed was to ensure that National Forest System Roads:

- provide for public uses,
- provide for safe public access and travel,
- allow for economical and efficient management,
- to the extent practicable, begin to reverse adverse ecological impacts associated with roads, and
- meet all other current and future land and resource management objectives.

The Roads Rule also redefined some of the terms that were used in the Draft EIS. To be consistent with the new Rule, the new definitions are used in this Final EIS. The Roads Rule added the following new definitions pertaining to road management.

- *National Forest System Road.* A classified forest road under the jurisdiction of the Forest Service. The term “National Forest System roads” is synonymous with the term “forest development roads” as used in 23 U.S.C. 205.
- *Road.* A motor vehicle travelway over 50 inches wide, unless designated and managed as a trail. A road may be classified, unclassified, or temporary (36 CFR 212.1).
 1. *Classified Roads.* Roads wholly or partially within or adjacent to National Forest System lands that are determined to be needed for long-term motor vehicle access, including State roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service (36 CFR 212.1). These roads receive various levels of road maintenance, from storage, where no maintenance is required, to paved Forest highway roads as indicated in Table 3-44, Table 3-45 and Table 3-46 and Appendix B, Road Cards.
 2. *Temporary Roads.* Roads authorized by contract, permit, lease, other written authorization, or emergency operation, not intended to be a part of the forest transportation system and not necessary

for long-term resource management (36 CFR 212.1). These roads are to be built to access one or more timber harvest units and decommissioned after use. See Table 3-46.

3. *Unclassified Roads.* Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travelways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization (36 CFR 212.1).
 - *Road Decommissioning.* Activities that result in the stabilization and restoration of unneeded roads to a more natural state (36 CFR 212.1), (FSM 7703).
 - *Road Maintenance.* The ongoing upkeep of a road necessary to retain or restore the road to the approved road management objective (FSM 7712).
 - *Road Reconstruction.* Activity that results in improvement or realignment of an existing classified road as defined below:
 1. *Road Improvement.* Activity that results in an increase of an existing road's traffic service level, expansion of its capacity, or a change in its original design function.
 2. *Road Realignment.* Activity that results in a new location of an existing road or portions of an existing road and treatment of the old roadway (36 CFR 212.1).

Forest roads are planned either for long-term management or for temporary use. Classified roads are developed and maintained for long-term land and resource management purposes and public use. Temporary roads are constructed and used for a limited time period, then returned to a more natural state. Use of the term "permanent road" in the Woodpecker Project Area Draft EIS is synonymous with the term "classified road" in the Roads Rule and this Final EIS. The term "temporary road" in the Draft EIS has the same meaning as "temporary road" in the Roads Rule and this Final EIS.

Roads Analysis Process

Among other direction, the Roads Rule requires that an area-specific roads analysis be completed and a determination of need for amendment or revision of the Forest Plan be made if any roads are to be constructed or reconstructed in inventoried roadless or contiguous unroaded areas, until a forest-wide roads analysis has been completed (FSM 7712.16(c)).

During the analysis for the Woodpecker Project Area, a road analysis was completed for Mitkof Island. Mitkof Island is a logical unit since the

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road system is not connected to any other island or the mainland, except by water or air transportation. This analysis consists of a report and accompanying maps and tabular information and is in the Woodpecker Project Area Planning Record. This analysis does not contain any road management decisions. The roads analysis is used to support decisions within an appropriate NEPA document (FSM 7712.11).

The recommendations for the roads in the Woodpecker Project Area are presented in the Road Cards in Appendix B and will become part of the Record of Decision. Each of the roads shown in Appendix B is considered necessary for long-term management of the forest, on either an intermittent or constant basis.

Existing Roads

Access to Mitkof Island and Petersburg is by plane, ferry and boat. The existing Woodpecker Project Area roads are connected to the city of Petersburg by the Mitkof Highway, which runs in a north/south direction through Mitkof Island. Numerous forest roads lead off of the state highway, some of which are loop roads that lead back to the highway. There are 129 miles of forest roads on Mitkof Island, plus an additional 42 miles of city roads and state highway that lead to the National Forest.

Most of the roads on the Petersburg Ranger District are constructed for timber harvest and subsequent silvicultural and other administrative activities. Roads may be built for other reasons, such as recreation or access to recreation sites.

The Woodpecker Project Area road system begins approximately 20 miles south of the city of Petersburg. There are approximately 40 miles of existing classified roads within the Woodpecker Project Area (Table 3-44). Approximately 30 miles of these roads are currently open to either standard passenger vehicles or high-clearance vehicles. Thick alder growth and removed culverts and bridges keep most vehicle traffic off the 10 miles of closed roads.

Some of the roads traverse through state lands. There are no private residences in the Woodpecker Project Area accessed by the forest road system. Although most of the traffic in the Woodpecker Project Area originates from Petersburg, it is possible to reach the road system by boating to the existing log transfer facility in Woodpecker Cove. The roads receive high use during deer and moose hunting season, from mid-September to the end of October.

Table 3-44. Existing Classified Roads in the Woodpecker Project Area

Road Number	Beginning of Road	Current Status	Length (miles)	Proposed Road Management Objectives
6245 (Woodpecker Road)	FH7, Milepost 20.5	Open, crushed surface to Milepost 6.5	18.4	Open
6246	6245, Milepost 0.4	Open, crushed surface to Milepost 0.33	2.8	Open
6280	6245, Milepost 1.4	Closed at Milepost 0.0; alder and washouts	2.6	Storage ¹
6281	6245, Milepost 3.1	Closed at Milepost 0.25; alder and washouts	2.8	Storage ¹
6282	6245, Milepost 4.1	Open	4.4	Open
6283	6245, Milepost 5.2	Open to Milepost 0.3; closed beyond with washouts	1.4	Storage ¹
6284	6245, Milepost 13.3	Closed at Milepost 0.1; removed bridge	1.1	Storage ¹
6285 (Woodpecker Cove Road)	6245, Milepost 8.5	Open	0.2	Open
6286	6245, Milepost 14.0	Open	1.6	Open
6287	6245, Milepost 11.5	Closed	1.5	Storage ¹
40003	6245, Milepost 15.3	Open	0.3	Open
40004	6286, Milepost 0.8	Open	0.5	Open
40006 (Snake Ridge Road)	6246, Milepost 1.5	Open	1.4	Open
40083	6245, Milepost 5.6	Closed at Milepost 0.0; alder	0.8	Storage ¹
TOTAL LENGTH (Open and Closed)			39.8	

¹ Storage is defined in FSH 5409.17 as the process/action of closing a road to vehicle traffic and placing it in a condition that requires minimum maintenance to protect the environment and preserve the facility for future use.

Proposed Closure of Existing Classified Roads

Each of the action alternatives proposes to physically close the ten miles of existing classified roads in the Woodpecker Project Area that have grown over with alder, and to place them in storage. Roads to be physically closed include 6280, 6281, 6283, 6284, 6287, and 40083. Some of these roads receive occasional use during hunting seasons, but road maintenance funding is not adequate to keep all of the roads within the project area open to active road standards. See the Mitkof Island Road Analysis in the Planning Record for further discussion.

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Proposed Closure of Unclassified Roads

While performing an inventory of forest roads on Mitkof Island in 2001, one short road, originally constructed as a temporary road during timber sale activities but not decommissioned after its use, was identified within the project area. Since this road was not intended to be a part of the forest road system for long-term use, as described in the Mitkof Island Road Analysis, it is considered an unclassified road. This 300-foot-long road begins near milepost 0.5 on Road 40004. It will be decommissioned by restoring to a more natural state. See the Road Cards in Appendix B.

Proposed Roads

Most of the proposed new roads in the Woodpecker Project Area will be used to transport timber to a mill or log transfer facility and to transport timber-harvesting equipment.

Proposed Road 40821 would begin at milepost 1.75 on Road 6282 and would access the productive forest south of the existing road. Currently it is proposed to access timber harvest units 117a, 117b, 117c, 117d, and 118 in Alternatives 2, 5, and 6, and could be used to access timber farther to the south in future entries. The first 500 feet of this road crosses a muskeg/forested wetland mosaic in order to avoid muskeg. It also crosses a Class II stream and other short stretches of mosaic. This road is planned to be closed after the proposed timber harvest and placed in storage to reduce maintenance costs. Drainage structures will be pulled and natural drainage restored.

The objective of proposed Road 40822 is to access the south-facing slope north of existing Road 6282 from the highest point on Road 6282. This road is proposed in Alternatives 2, 5, and 6 to access a number of timber harvest units. In Alternatives 5 and 6, it will also be used to shorten helicopter turn times for other units. In future timber harvest entries, it may be extended to the north. Some areas of wetland were crossed to avoid steeper slopes. The first mile of road is planned to be left open for access into this area by high-clearance vehicles. The remainder of the road is planned to be closed and maintained in a storage condition by removing drainage structures. This road enters the Crystal Inventoried Roadless Area near milepost 0.2.

Part of the extension of Road 6282, as proposed in Alternatives 2 and 6, would be built to establish a loop road with Road 6245 for recreational purposes. This road would not be classed as a road built for silvicultural purposes and would require a Section 404 permit from the Corps of Engineers for any stream crossings. See the Road Cards in Appendix B.

All proposed new road locations in the Woodpecker Project Area have avoided high hazard unstable soils in all alternatives. Proposed roads were located to avoid wetland areas wherever practicable. In some locations, however, crossing a wetland site reduced the overall

environmental impacts of a road. Avoiding steep slopes and aligning the roads perpendicular to stream crossings are examples of locations where wetlands were not avoided. Table 3-41 in the Wetlands section of this chapter displays the total new classified and temporary road miles through wetlands by alternative. The road cards in Appendix B give details of road locations relative to wetland types.

Classified roads are considered necessary for future administrative access. Table 3-45 displays the miles of proposed new roads in the Woodpecker Project Area. Table 3-46 shows the proposed and existing classified road miles for each alternative.

Temporary roads are constructed and used for a limited time period. They are not needed for future administrative access. After timber harvest is complete, all temporary roads will be decommissioned by removing culverts and bridges, restoring natural drainage patterns, and returning the roadbed to vegetative production within ten years or less.

All roads, both existing and proposed, would be located, designed, constructed and maintained using Best Management Practices (BMPs). References to individual BMPs can be found on the Unit Cards and Road Cards in Appendix B.

Table 3-45. Proposed New Road Miles in the Woodpecker Project Area

Road Number	Beginning of Road	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Remarks
6282	6282 MP 4.10	0	0.8	0	0	0	0.8	Loop road to 6245 milepost 11, keep open after harvest
40821	6282 MP 1.75	0	1.8	0	0	1.8	1.8	Close road after harvest
40822	6282 MP 3.30	0	2.2	0	0	1.7	2.2	Keep open after harvest to milepost 1
Total New Classified Road Miles Planned		0	4.8	0	0	3.5	4.8	
New Temporary Road Miles Planned		0	6.1	3.9	3.1	4.1	3.8	All temporary roads will be closed

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Table 3-46. Proposed and Existing Open Classified Road Miles

Alt.	Miles of Open Existing Classified Road	Miles of Proposed New Classified Road	Miles of New Classified Road Open After Harvest	Total Miles of Classified Road Open After Harvest
1	29.7	0	0	29.7
2	29.7	4.8	1.8	31.5
3	29.7	0	0	29.7
4	29.7	0	0	29.7
5	29.7	3.5	1.0	30.7
6	29.7	4.8	1.8	31.5

Stream Crossings

All new stream crossing structures in fish-bearing streams will be installed to ensure passage of fish. There would be 17 new stream crossings associated with new road construction in Alternatives 2 and 6. Two of these crossings involve streams with resident fish. Alternative 5 would have 15 new stream crossings, including two crossings of resident fish streams. Alternatives 3 and 4 propose the same two new stream crossings, one of which is a resident fish stream. For more information see the Fish Habitat and Water Quality section of this chapter and Appendix B, Road Cards.

In Alternatives 4 and 5, a temporary bridge on Road 6284 over a Class II stream will be required to access helicopter landing areas from Units 81a and 82. The bridge would be removed after timber harvest is complete.

An existing log stringer bridge located on Road 6282 over a Class I stream will be replaced with a permanent bridge in all action alternatives. See the Road Cards in Appendix B.

Road Management

Motorized access on several existing roads within the Woodpecker Project Area would be eliminated because of economics or the sensitivity of fisheries and water quality. These roads are: 6280, 6281, 6283, 6284, 6287, and 40083. Each of these roads currently receives little use due to the presence of alder trees on the roadway. Road condition surveys on these roads have identified potential problems with downstream water quality due to road surface erosion and blocked drainage structures. Removing drainage structures and eliminating traffic-induced road rutting would both remove the potential for water quality problems and increase the available road maintenance funding for the remaining open roads in the Woodpecker Project Area. These roads will be placed in storage until needed in the future for administrative access.

All other existing roads in the Woodpecker Project Area would remain open to motorized traffic. Roads open to vehicle traffic would fall into two categories; those open and maintained for standard passenger vehicles, and those open to high clearance vehicles such as pickup trucks. See the Road Management Objective Maintenance Strategy map in Appendix B for details. All of the open road miles will receive periodic roadside brushing and annual drainage structure maintenance.

The main road within the Woodpecker Project Area, Road 6245, and the access roads to the unimproved trail to Crystal Mountain, Roads 6246 and 40006, would receive crushed rock surfacing and other improvements to facilitate safe travel.

In October 1999, heavy rains caused a road fill failure approximately 2.3 miles from the end of Road 6245. Similar road failures occurred on Roads 6286 and 6282. Repairs to both 6245 and 6286 are scheduled for completion in 2001. Road 6282 is currently being evaluated for reconstruction.

Off-highway Vehicles (OHVs)

Since the local terrain and dense vegetation limit off-road or all-terrain vehicle use, typical off-highway vehicles such as motorcycles, three- and four-wheelers, and all-terrain vehicles (ATVs) use forest roads for recreation and travel purposes. The Forest Plan designates the entire Forest open to OHV use, unless designated closed in site-specific locations. On Mitkof Island, the only site-specific closure to OHV use is the Blind Slough area, near the Crystal Lake fish hatchery, due to possible disturbance to trumpeter swans. Federal regulations prohibit the use of vehicles off roads "in a manner which damages or unreasonably disturbs the land, wildlife, or vegetative resources" (36CFR 261.13). These regulations combined with the access-limiting terrain keep most OHV use on the existing roads rather than in the muskegs.

Road Density

Road density is defined as the number of miles of open roads within a square mile. This is one indicator of environmental impacts. The higher the road density, the greater the risk of impact. These risks are minimized and mitigated by standards and guidelines, which direct road location, design, construction and operation.

Mitkof Island is 202.6 square miles in size, and there are currently about 137 open road miles on the island. This equates to a road density of 0.68 (Table 3-47). This project would add up to a maximum of 1.8 new open road miles under Alternatives 2 and 6, increasing the open road density on Mitkof Island to 0.69 miles per square mile. Alternatives 1, 3, 4, and 5 would maintain the road density at 0.68 miles per square mile.

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Table 3-47. Current and Proposed Open Road Miles on Mitkof Island

Alternative	1	2	3	4	5	6
Current Open Forest Service Road Miles	95	95	95	95	95	95
Current Open Non-Forest Service Road Miles	42	42	42	42	42	42
Proposed New Open Road Miles (Alt. 2)	0	1.8	0	0	1	1.8
Proposed Total Open Road Miles	137	138.8	137	137	138	138.8
Road Density (mi/mi ²)	0.68	0.69	0.68	0.68	0.68	0.69

Facilities

Log Transfer Facility (LTF)

The transfer of harvested timber requires that logs be hauled directly to mills by trucks, or removed from trucks, transferred to salt water or barges at a log transfer facility (LTF), then towed to a mill. There is one existing LTF in the Woodpecker Project Area at Woodpecker Cove. The LTF was constructed in 1975. Approximately 70 million board feet of timber volume has been transported over this site. In 1994, the LTF uplands area was reconstructed in accordance with a National Pollution Discharge Elimination Systems permit (NPDES) to collect and filter storm water discharge. The LTF has not been used for log transfer since 1990. The last monitoring dive performed at the LTF was in September 2000. At that time, no bark accumulation was observed.

Because of the central location of the Woodpecker Cove LTF in the Woodpecker Project Area, this site is the most economical LTF for the transfer of harvested timber off Mitkof Island from within the project area. The LTF currently consists of a rock ramp suitable for barge or log watering use with an adjacent staging area of approximately 1½ acres. Current permits for the LTF include:

- Section 404 of the Clean Water Act, Storm Water Discharge Permit from the Environmental Protection Agency,
- Tidelands Permit from the State of Alaska, Department of Environmental Conservation, and
- Certification of Compliance with Alaska Water Quality Standards (Section 401 Certification) from the State of Alaska, Department of Environmental Conservation.

A general National Pollutant Discharge Elimination System (NPDES) permit (Section 402 of the Clean Water Act) has been applied for. The major potential impact involving LTFs is the accumulation of log debris and bark in the marine environment. Bark accumulation on the ocean bottom can diminish habitat for bottom-dwelling creatures, as well as hamper underwater vegetation used as food and rearing sites for marine fish and other organisms. Bark accumulation from past use at Woodpecker Cove LTF is negligible. Although the LTF is suitable for the barging of logs, some rafting of logs may occur, particularly when very small log volumes would make barging cost prohibitive. Bark depths would be monitored if the Woodpecker Cove LTF were used. It is also expected that some of the timber harvested in the Woodpecker Project Area will be purchased by businesses on Mitkof Island and likely will not need to use an LTF.

LTFs adjacent to the Woodpecker Project Area are located at Olsen's Landing in south Blind Slough and at Papke's Landing on Wrangell Narrows. The LTF at Olsen's Landing is a Forest Service facility, while the LTF at Papke's Landing is under the jurisdiction of the Alaska Mental Health Trust Authority, a division of the Alaska State Department of Revenue.

Sort Yard

Timber sales sold as a result of any of the action alternatives would require on-site locations for decking wood. Depending on how the sales are sold, they may also require a sort yard. These areas usually require a clearing of two to five acres.

There are no existing sort yards in the Woodpecker Project Area. Some rock pits could be used as sort yards, or the logs could be sorted within the units. There are several sort yards on Mitkof Island outside of the Woodpecker Project Area.

Logging Camp

There was a floating logging camp in the Woodpecker Cove area during the 1970s. This was prior to connecting the Woodpecker roads with the rest of the Mitkof Island roads, which occurred in 1982. Timber purchasers in need of using the Woodpecker Cove LTF may choose to use a floating camp. A float camp may not be used since there is road access to the City of Petersburg. Should a float camp be necessary, all required permits would be obtained by the timber purchaser.

Administrative Sites

There are no Forest Service or other agency administrative sites in the Woodpecker Project Area. The Petersburg Ranger Station is located approximately 20 miles north of the project area boundary. Ohmer Creek campground is located near milepost 21 on the Mitkof Highway, just east of the project area boundary.

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Direct Effects

Alternative 1

The condition of all existing roads would remain the same except as part of the current maintenance schedule. Roads 6280, 6281, 6283, 6284, 6287, and 40083 would not be closed to motorized vehicles and the level of use would remain the same. The Woodpecker Road (Road 6245) and the Snake Ridge Road (Road 40006) would not be improved. This alternative does not propose any new roads within the Woodpecker Project Area. Road density and number of stream crossings would remain the same.

Alternative 2

Alternative 2 would have the most road construction, with a total of 4.8 miles of new classified road construction and 6.1 miles of temporary road construction. Six existing culverts at five stream crossings on Road 6245 would be repositioned. There would be an additional 17 stream crossings by roads. Approximately 1.8 miles of new classified road would be left open after harvest and 3 miles of new classified road would be put in storage after harvest. Roads left open include a new loop road connection between the end of Road 6282 and Road 6245 near milepost 11, and a 1-mile long road segment extending from Road 6282 into the Crystal Inventoried Roadless Area. The road density for Mitkof Island would be increased from 0.68 to 0.69 miles per square mile.

Roads 6280, 6281, 6283, 6284, 6287, and 40083 would be closed to vehicle use and placed in storage. The Woodpecker Road (Road 6245) and the Snake Ridge Road (Road 40006) would be improved to standard passenger vehicle standards.

Alternative 3

Alternative 3 does not propose any new classified roads in the Woodpecker Project Area, but does propose 3.9 miles of temporary road construction. Six existing culverts at five stream crossings on Road 6245 would be repositioned. There would be two additional stream crossings by road. The road density for Mitkof Island would remain unchanged at 0.68 miles per square mile.

Roads 6280, 6281, 6283, 6284, 6287, and 40083 would be closed to vehicle use and placed in storage. The Woodpecker Road (Road 6245) and the Snake Ridge Road (Road 40006) would be improved to standard passenger vehicle standards.

Alternative 4

Alternative 4 would have the least amount of road construction among the action alternatives, with no new classified roads and 3.1 miles of temporary roads in the Woodpecker Project Area. Six existing culverts at five stream crossings on Road 6245 would be repositioned. There would be two additional stream crossings by road. The road density for Mitkof Island would remain unchanged at 0.68 miles per square mile.

Roads 6280, 6281, 6283, 6284, 6287, and 40083 would be closed to vehicle use and placed in storage. The Woodpecker Road (Road 6245) and the Snake Ridge Road (Road 40006) would be improved to standard passenger vehicle standards.

Alternative 5

Alternative 5 proposes 3.5 miles of new classified road construction and 4.1 miles of temporary road construction. Six stream crossing structures on Road 6245 would be repositioned. There would be 17 new stream crossings by road. This alternative would have the same 1-mile segment of new classified road left open after harvest as Alternative 2, with 2.5 miles of new classified road placed in storage after harvest. The road density for Mitkof Island would remain at 0.68 miles per square mile. Roads 6280, 6281, 6283, 6284, 6287, and 40083 would be closed to vehicle use and placed in storage. The Woodpecker Road (Road 6245) and the Snake Ridge Road (Road 40006) would be improved to standard passenger vehicle standards.

Alternative 6

Alternative 6 would have the same 4.8 miles of new classified road construction as Alternative 2, and 3.8 miles of temporary road construction. Six existing culverts at five stream crossings on Road 6245 would be replaced/reconstructed with structures that provide fish passage. There would be an additional 17 stream crossings by new roads. Approximately 1.8 miles of new classified road would be left open after harvest and 3 miles of new classified road would be placed in storage after harvest. Roads left open include a new loop road connection between the end of Road 6282 and Road 6245 near milepost 11, and a 1-mile long road segment extending from Road 6282 into the Crystal Inventoried Roadless Area. The road density for Mitkof Island would be increased from 0.68 to 0.69 miles per square mile.

Roads 6280, 6281, 6283, 6284, 6287, and 40083 would be closed to vehicle use and placed in storage. The Woodpecker Road (Road 6245) and the Snake Ridge Road (Road 40006) would be improved to standard

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passenger vehicle standards. A short (300-ft) unclassified⁵ road off of Road 40004 would be decommissioned and allowed to return to a more natural state.

Cumulative Effects

Observations of previous new road construction projects on Mitkof Island have shown that when new roads are built, vehicles soon follow. As road use becomes established, new recreation places and activities occur. Within the Woodpecker Project Area, all of the roads that are open to wheeled traffic receive some use. The addition of new roads enhances this use.

Placing some existing roads that are currently blocked with alder in storage will not cause any significant effects, since there is presently very little motorized use of these roads. Foot traffic along these closed road segments is expected to continue.

Actions on non-National Forest System lands within the Woodpecker Project Area are not expected to affect the road system or access to places within the project area.

⁵ A road on National Forest System lands that is not managed as part of the forest transportation system, such as an unplanned road, abandoned travelway, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization.

Subsistence

This section discusses all subsistence resources within the Woodpecker Project Area. Deer is also discussed in the Issue 1 (Deer Hunting) section at the beginning of this chapter.

With the passage of the Alaska National Interest Lands Conservation Act (ANILCA, or Public Law 96-487), the United States Congress recognized the importance of subsistence resource gathering to the rural communities of Alaska. ANILCA (Section 803) defines subsistence as:

“The customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; and for customary trade.”

ANILCA provides for the continuation of the opportunity for subsistence uses by rural residents of Alaska, including both Natives and non-Natives, on public lands. It also legislates that customary and traditional subsistence uses of renewable resources shall be the priority consumptive uses of all such resources on the public lands of Alaska. Rural residents are provided a preference for the taking of subsistence fish and wildlife resources on public lands. Juneau and Ketchikan are the only communities in Southeast Alaska that have been determined to be non-rural by ANILCA and the Federal Subsistence Board.

Communities Traditionally Using the Woodpecker Project Area

Petersburg

Petersburg is situated on the northwest shore of Mitkof Island at the north end of Wrangell Narrows, approximately 18 miles from the Woodpecker Project Area. The 2000 U.S. Census population of Petersburg was 3,224 (Alaska Department of Community and Economic Development, 2000). Petersburg is classified as a rural community, which entitles the residents to subsistence use of resources. Approximately 12 percent of the population is Native American. The median household income for Petersburg residents reported in the 1990 U.S. Census was \$49,318.

Prior to white settlement, Native Americans used the Petersburg area for seasonal fishing camps. Founded by Norwegian Peter Buschmann in 1899, Petersburg was incorporated in 1906. More Norwegians followed and created a Scandinavian-style community. Petersburg grew around a cannery, and the site quickly became a center for fishing, fish processing,

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and transportation. Except for a slight decline in the 1950s, a continual growth in population has occurred.

Petersburg is highly dependent on seafood harvesting and processing. A number of fish, shrimp, and crab canneries have operated in Petersburg and Scow Bay over the years. Petersburg is homeport to the largest salmon purse seining fleet in Southeast Alaska. Halibut has also been central to the local fishing industry.

Large-scale logging was introduced to the area in the 1960s. Government employment in Petersburg accounted for 35 percent of the wage income in 1986. The government sector has been declining through the late 1980s and early 1990s. Other economic sectors include retail trade, construction, and tourism.

The subsistence resources most commonly used by Petersburg residents are coho and chinook salmon, halibut, and deer. Crab, shrimp, berries, and wood are also important. Subsistence harvest provides just over 30 percent of the meat and fish for Petersburg residents (Kruse and Muth, 1990).

Harvest of land mammals by Petersburg residents consists primarily of deer, which are accessed in most traditional use areas by boat and foot. However, in the Woodpecker Project Area, where roads are present, hunters use roads as the primary means of hunting access.

Wrangell

Wrangell is located approximately 33 air miles south of Petersburg on the northern tip of Wrangell Island. It is approximately 14 miles from the Woodpecker Project Area. The 2000 U.S. Census population of Wrangell was 2,308 (Alaska Department of Community and Economic Development, 2000). Approximately 24 percent of the population is Native American. The median household income for Wrangell residents reported in the 1990 U.S. Census was \$37,538. Wrangell is also classified as a rural community.

The community began as an important Tlingit village primarily because of its proximity to the Stikine River. Wrangell Stikine Kwan clans held and fiercely defended a monopoly of trading rights along the Stikine River, which served as an important early trade route into the Canadian interior. The flags of three nations (England, Russia, and the United States) have flown over Wrangell. Wrangell became a supply center for gold miners and prospectors during a gold rush in 1862 and in the Klondike rush of the 1890s. Over the years several fish, crab, and shrimp canneries have operated near Wrangell. Timber eventually surpassed

fishing in Wrangell's economic history, and by 1987 government was the third major employer after timber and fishing (Alaska Department of Fish and Game, 1992). Wrangell has a full-time U.S customs agent to handle international trade. Tourism has been a growing economic sector in recent years.

Today, timber, fishing, and fish processing dominate Wrangell's economy. About 260 Wrangell residents hold commercial fishing permits. Approximately 19 percent of Wrangell households fished commercially in 1987. In Wrangell, approximately 16 percent of all fish used by households in 1987 was retained from commercial catches (Alaska Department of Fish and Game, 1992). Many Wrangell residents use commercial fishing vessels to reach remote deer hunting areas that are not accessible by small boats.

Areas Most Often Used for Subsistence Activities

The Alaska Department of Fish and Game has identified certain areas by VCU as highest community use areas (Tongass Fish and Wildlife Resource Assessment, 2000). Most of the Woodpecker Project Area is within two of these, VCU 447 and VCU 452 (Figure 1-3). Deer, moose, black bear, and furbearer hunting and trapping occurs throughout the Woodpecker Project Area, along the existing road system, as well as within the beach-fringe and inland forests. The most popular areas for subsistence fishing include all of the marine waters of Sumner Strait, South Blind Slough, and the Wrangell Narrows surrounding the project area. Inland streams in the Woodpecker Project Area are also used to harvest salmon, trout and char. The tidal environments of the Wrangell Narrows, Sumner Strait, and South Blind Slough are also used to harvest marine invertebrates.

Roadsides and clearcuts within the Woodpecker Project Area are used to harvest some plants such as berries. Most traditional gathering of other plants and foods occurs near beach and estuarine areas.

Types and Amounts of Resources Gathered

Subsistence use areas and the levels of harvest were estimated from a variety of sources. Alaska Department of Fish and Game records the level of community harvests for select species, such as deer, moose, marten, black bear, wolf, and otter, within specific areas referred to as Wildlife Analysis Areas (WAAs). All of Mitkof Island is contained within the Alaska Department of Fish and Game's Wildlife Analysis Area (WAA) 2007. The Alaska Department of Fish and Game also reports some Mitkof Island harvest to Minor Harvest Reporting Areas (Alaska Department of Fish and Game, 1998).

The Woodpecker Project Area comprises all of Minor Harvest Reporting Area 0703 and about 80 percent of 0702. We used the reported harvest in 0703 and 80 percent of the reported harvest in 0702 to estimate what

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percentage of the Mitkof harvest came from the Woodpecker Project Area (Table 3-49).

Alaska Department of Fish and Game harvest data and Tongass Resource Use Cooperative Survey (TRUCS) maps reveal subsistence use areas for deer, marine invertebrates, marine mammals, salmon, and other fish within the project area. Other sources of subsistence use information came from public testimony and published accounts of community use surveys.

The information sources reveal that Petersburg residents use the Woodpecker Project Area extensively for subsistence harvest, especially for deer, fish, and furbearers, and, to a lesser degree, moose, black bear, and marine invertebrates. Residents of Wrangell also use marine waters of the project area for fishing, and conduct limited hunting for deer, black bear, and marine mammals. The TRUCS data indicate that some harvest of marine mammals by Wrangell residents has been reported to occur in Sumner Strait and South Blind Slough. Residents of Port Protection report some salmon harvest in Sumner Strait near the project area and limited moose hunting.

The only reported subsistence marine invertebrate harvest areas within the Woodpecker Project Area were reported by residents of Petersburg and Wrangell. Wrangell residents report using the shoreline along Sumner Strait and portions of South Blind Slough. Petersburg residents harvest marine invertebrates along portions of the Mitkof shoreline along the Wrangell Narrows and Sumner Strait west of Michael Creek.

Edna Bay, Sitka, and Kake were the only other rural southeastern Alaskan communities with some reported fish and wildlife gathering activities within the area, but this was not significant use.

Approximately 15 percent of the subsistence deer harvest by Petersburg residents comes from Mitkof island. Of this amount, approximately 44 percent of the island-wide deer harvest, or 7 percent of the total deer harvested by Petersburg residents, occurs in the Woodpecker Project Area. Subsistence deer hunting is discussed in the Issue 1, Deer Hunting section in this chapter.

Approximately 7 percent of Petersburg households harvest furbearers (Kruse and Frazier, 1988). Petersburg residents account for all of the reported harvest of marten, otter, and wolves since 1987. The Woodpecker Project Area accounts for an estimated 36 percent, 24 percent, and 22 percent of the island-wide harvests of marten, otter, and wolves, respectively.

The black bear harvest within the Woodpecker Project Area since 1987 is estimated at three bears per year, which is 21 percent of the island-wide harvest. About 84 percent of the island-wide harvest is by Petersburg residents, 15 percent is by nonsubsistence users, and the remainder is by Wrangell and Sitka residents.

Mitkof Island is one of the most important moose hunting areas for residents of Petersburg, who take about 97 percent of the total harvest. One moose has been documented killed by a resident of Port Protection since the season reopened in 1991, and the remainder of the harvest is by nonsubsistence Alaskan hunters. The Alaska Department of Fish and Game has placed antler restrictions on moose that are legal to hunt. These restrictions are believed to be sufficient to prevent over-hunting of the Mitkof Island moose herd.

Only about 11 percent of the island-wide moose harvest occurs within the Woodpecker Project Area. The average yearly harvest on Mitkof Island from 1991-1999 was 13 bulls, and the harvest within the project area is estimated at just over one moose per year. A yearly average of 216 hunters report moose hunting on Mitkof Island. Logging roads are commonly used for access to hunting areas and to transport moose out of the field.

Wrangell residents reported no Mitkof Island moose or furbearer harvest in recent years. Less than 1 percent of the black bear harvest by Wrangell residents occurs on Mitkof Island. TRUCS data also indicate that the Woodpecker Project Area accounts for less than 1 percent of the traditional deer harvest of that community.

Fish and shellfish comprise a very significant portion of the diet of most residents in Southeast Alaska. Over 60 percent of the subsistence resources gathered by Petersburg residents are fish and shellfish. The comparable figure for Wrangell is almost 70 percent. Some of the streams within the Woodpecker Project Area are used for consumptive uses of fish. Streams also provide habitat for anadromous fish that are harvested from saltwater.

Other items used for subsistence include plants such as kelp, seaweed, and a variety of berries. The Woodpecker Project Area is known for its local concentrations of red huckleberry bushes. TRUCS data indicate that other foods and plants make up 4.4 percent of the household subsistence harvests in Petersburg (Table 3-48).

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Wildlife Effects and Evaluation

Abundance and Distribution of Deer

Environmental effects on the abundance and distribution of deer are discussed in detail in the Issue 1, Deer Hunting section of this chapter.

The interagency deer model suggests that deer habitat capability in the Woodpecker Project Area has been reduced by about 12 percent since 1954. Pellet-group counts (Kirchhoff, 1999) within the project area suggest that the deer population is moderately high.

Impacts of the proposed alternatives on deer are evaluated from the changes in long-term carrying capacity predicted by the interagency deer model (Table 3-3). This model estimates that deer carrying capacity will decline about 9.6 percent by 2043 under the No-Action Alternative (Alternative 1). All action alternatives will result in additional declines, which should peak and level off at 40 years when the tree canopy completely closes. Alternative 3 would result in an additional 0.9 percent decline compared to the No-Action Alternative. Alternatives 4 and 6 would result in an additional 1.6 percent decline compared to the No-Action Alternative. Alternative 2 would result in an additional decline of 1.7 percent compared to the No-Action Alternative. Alternative 5 would result in the highest decline, 3.1 percent, compared to the No-Action Alternative. The estimated long-term decline in deer carrying capacity expected to result from proposed timber harvests in the action alternatives ranges from 15 to 54 deer.

The interagency model predicts that the greatest impact to deer habitat in the Woodpecker Project Area is future loss of forage in existing second-growth stands due to conifer regeneration and subsequent closure of the tree canopy, which shades out forage plants. Currently, second-growth stands on National Forest System lands have abundant understory and are not in need of thinning. Future thinnings in roughly 10 to 20 years may maintain understory forage and could prevent the 10 percent decline in deer habitat potential. The Tongass National Forest has had an active and continuous timber stand improvement program for over 25 years. These vegetative treatments maintain understory vegetation. There is no indication that this program will be discontinued or that forest health and wildlife habitat management will cease on the Tongass National Forest.

Abundance and Distribution of Moose

Studies at nearby Thomas Bay have shown that moose use may temporarily increase three-fold in clearcuts, but will likely decline to low levels if forage is eventually shaded out by conifer regeneration (Doerr, 1983, 1984). In all harvest alternatives, moose are likely to benefit from an increase in understory from the proposed cutting. The long-term

effects of this logging activity will depend on whether thinning and other silvicultural treatments will be used to maintain understory in the harvested areas. One of the future concerns is maintaining understory in the existing second-growth stands. No thinning needs were identified for second-growth stands on National Forest System lands within the Woodpecker Project Area at this time, but treatments may be required in about 10 to 20 years in order to maintain understory.

Abundance and Distribution of Black Bear

Field observations indicate that black bears are common and well distributed within the Woodpecker Project Area. None of the alternatives are expected to result in any restrictions to subsistence harvest of black bear.

Abundance and Distribution of Furbearers

Some timber harvest does occur in marten habitat in the action alternatives, but with the mitigation measures discussed in the Marten section of this chapter, the population of marten found on Mitkof Island and in the Woodpecker Project Area will not be significantly reduced.

Significant subsistence restrictions on marten are not expected as a result of any action alternatives proposed. Overall, the miles of roads maintained for motorized public access after the timber harvest is not expected to change significantly or to affect marten populations negatively.

Access to Wildlife (Deer, Moose, Black Bear, Furbearers)

The primary modes of access for harvesting wildlife include boats, foot travel, cars, and all-terrain vehicles. Because the existing road system in the Woodpecker Project Area connects directly to the community of Petersburg, roads are used extensively for hunting access.

Some people want existing roads maintained for access. Other people want more road access, including loop roads. Still others feel there is already too much road access on Mitkof Island and want roads closed. Several people expressed the concern that the remaining roadless areas in the Woodpecker Project Area should be left unroaded.

Access by boat and foot would not be restricted by any of the action alternatives. Access to areas along the beach fringe will not change. Proposed road management objectives will keep motorized access near the current level. Most newly constructed classified roads and all new temporary roads would be closed to vehicle traffic after timber harvest is

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complete in all action alternatives. Alternatives 2 and 6 would connect Road 6282 with Road 6245 at Milepost 11 (0.8 miles of new construction), creating a loop road. Alternatives 2, 5, and 6 would keep open approximately 1 mile of new classified road in the West Sumner Creek drainage after timber harvest. Alternatives 3 and 4 would not provide any road access to new areas.

In all alternatives, about 30 miles of classified road would remain open in the Woodpecker Project Area to provide access for subsistence users. Approximately ten miles of existing classified roads within the project area are presently closed to motorized traffic due to alder growth on the roadway. These roads (6280, 6281, 6283, 6284, 6287, and 40083) receive occasional use during hunting season by ATVs and adventurous 4-wheel-drive users. In all alternatives, these roads would be physically closed after harvest and placed in storage. Because motorized use of these roads is occasional, these closures should have no adverse effect on access by subsistence users. Access by foot will remain unchanged on these roads.

Table 3-48. Estimated Subsistence Resource Use by Petersburg and Wrangell Residents

Resources	- Pounds Per Household -	
	Petersburg	Wrangell
Fish		
Salmon	151	85
Other Finfish	148	121
Total fish	299	205
Game		
Deer	146	57
Bear	2	3
Moose	42	25
Goat	0	4
Total game	191	89
Marine Invertebrates	128	106
Marine Mammals	0	18
Birds	12	4
Plants and Berries	29	12
Total All Resources	658	435

Source: Alaska Department of Fish and Game, Division of Subsistence, 2000. Not all numbers will sum to the total due to rounding factors.

Table 3-49. Comparison of Subsistence and Non-Subsistence Harvest of Important Game Species Within WAA 2007 (Mitkof Island) and Woodpecker Project Area

Species	Communities	Years	Average Annual Harvest ¹	% Total Harvest
Deer	Subsistence	1992-99		
	Petersburg		112	99%
	Wrangell		0.2	<1%
	Port Alexander		2.0 ³	-
	Nonsubsistence			
	Alaska		0.5	<1%
	<i>Total Mitkof Island Harvest</i>		113	100%
	<i>Est. Project Area Harvest²</i>		50	44%
Moose	Subsistence	1991-99		
	Petersburg		12.6	97%
	Port Protection		0.1	1%
	Nonsubsistence			
	Alaska		0.2	2%
	<i>Total Mitkof Island Harvest</i>		13.0	100%
	<i>Estimated Project Area Harvest</i>		1.2	11%
Black Bear	Subsistence	1988-99		
	Petersburg		13.3	84%
	Wrangell		0.1	1%
	Sitka		0.2	1%
	Nonsubsistence			
	Alaska		0.8	5%
	Non-Resident		1.7	10%
	<i>Total Mitkof Island Harvest</i>		16.8	100%
	<i>Estimated Project Area Harvest</i>		3.0	21%
Wolf	Subsistence	1988-99		
	Petersburg		7.3	100%
	<i>Total Mitkof Island Harvest</i>		7.3	100%
	<i>Estimated Project Area Harvest</i>		1.6	22%
Otter	Subsistence	1988-99		
	Petersburg		8.9	100%
	<i>Total Mitkof Island Harvest</i>		8.9	100%
	<i>Estimated Project Area Harvest</i>		2.1	24%
Marten	Subsistence	1988-99		
	Petersburg		32.0	100%
	<i>Total Mitkof Island Harvest</i>		32.0	100%
	<i>Estimated Project Area Harvest</i>		11.4	36%

¹ Source of moose, black bear, wolf, otter, and marten data is unpublished Alaska Department of Fish and Game harvest data (ADF&G 1999). Source of deer data is Alaska Department of Fish and Game (1995, 1996, 1998) and Paul and Straugh (1997, 1998). Refer to the Deer Hunting section of this chapter for a discussion of the deer harvest numbers. Not all numbers will sum to the total due to rounding factors.

² Percent of island-wide deer harvest taken in the Woodpecker Project Area was only estimated for years with a registration permit (1992-1994) and extrapolated to total harvest in other years.

³ The reported annual harvest of two deer taken by Port Alexander residents is likely a coding error in the mail questionnaire survey. Community survey data does not show Mitkof Island being within the traditional deer harvest area of Port Alexander community residents (Forest Plan FEIS Part II, page H-44).

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Competition for Wildlife (Deer, Moose, Black Bear, Furbearers)

Competition is closely linked to access. Opening an area up by increasing access may be a favorable development for subsistence users who often depend on a road to transport their animals out of the field. On the other hand, that same increased access could mean increased competition for subsistence resources, and may be an adverse impact. Increased access can be considered favorable for subsistence users but may have a long-term adverse impact for users if over-harvesting occurs.

There are approximately 30 open road miles in the Woodpecker Project Area. Most hunting occurs within about one mile on each side of these roads. In addition, there are approximately 15 miles of closed roads within the project area that hunters use for foot access or for occasional ATV access. Although some competition may come from beach access, roads are the most common mode of transportation by hunters. Some increase in hunters would probably occur in all the action alternatives due to improved access. Much of the increase in hunting would be by other local subsistence hunters.

None of the action alternatives are expected to have any effect on competition between rural and non-rural residents since none of the alternatives change the existing access patterns to other communities. A proposed change in the Alaska Marine Highway ferry system operations is expected to increase the number of people visiting Mitkof Island, but would also provide opportunities for Petersburg residents to access nearby islands for subsistence hunting and fishing. The design of the ferry system operations is not dependent on the Woodpecker project. Potential conflicts among user groups for subsistence resources would be the same among alternatives.

Temporary floating logging camps may occur at Woodpecker Cove. These workers could be local subsistence users or non-subsistence hunters. The limited duration of both deer and moose hunting seasons should minimize the likelihood of over-harvest. Subsistence users would have ANILCA preference over non-subsistence users if game populations were reduced to levels that required restrictions on harvests. No reductions in game populations or harvest restrictions are expected due to increased competition in any of the alternatives.

Fish and Shellfish Effects and Evaluation

Abundance and Distribution of Fish and Shellfish

Figure 3-16 shows the location of streams that provide fish habitat in the Woodpecker Project Area. Alternatives 3 and 4 would present the fewest impacts to streams and fish because they have the fewest number of stream crossings. Alternatives 2, 5, and 6 propose more stream crossings,

all of which would provide for fish passage on streams with fish habitat. The risk of impact to fish populations due to timber harvest would be minimal with implementation of Forest Plan Riparian Standards and Guidelines and road construction BMPs.

There are no expected measurable effects on shellfish populations for all action alternatives. The use of the existing Woodpecker Cove LTF would present the greatest potential for adverse impacts to shellfish due to bark accumulation. A dive conducted in 1995 found trace amounts of bark accumulation over ¼ acre at the LTF, 5 years after the last log transfer occurred. Another dive survey conducted in September 2000 detected no bark accumulation. Due to the limited size of the LTF and the marginal shellfish habitat at the site, little effect on fish or shellfish populations is expected.

Access to Fish and Shellfish

Road building associated with timber harvest will increase access to streams but not shorelines in the Woodpecker Project Area. Because timber will be harvested on uplands and away from shorelines, access to historic saltwater fish and shellfish areas should not be affected in the near or foreseeable future.

Competition for Fish and Shellfish

Competition for fish is not expected to increase due to the Woodpecker timber harvest. Fishing and shellfish gathering occurs primarily from boats and on beaches, negating any access impacts due to timber harvest or road building.

Upland Birds and Waterfowl Effects and Evaluation

Abundance and Distribution of Upland Birds and Waterfowl

Upland game birds, such as grouse, can be found throughout the Woodpecker Project Area.

There are no large waterfowl nesting and breeding areas within the Woodpecker Project Area. Vancouver Canada geese have been observed at Wolf Track Lake. South Blind Slough is adjacent to Sumner Strait and is part of the Stikine River Area flyway. Migrating waterfowl rest here in the spring and fall. During the fall, waterfowl hunting occurs at the head of South Blind Slough adjacent to the project area.

Upland birds do not seem to be affected by increased road access. The amount of upland bird habitat unaffected by the proposed projects will support the current populations. Beach, estuary, and riparian buffers will retain habitat for waterfowl. The Forest Plan standard and guideline for

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waterfowl buffers will be implemented if necessary to protect nesting or breeding waterfowl. One buffer is recommended for unit 90b if waterfowl are observed using that area.

No measurable effects on bird populations are expected for any of the action alternatives.

Access to Upland Birds and Waterfowl

Road building associated with timber harvest will increase access to upland bird hunting areas. Access to waterfowl hunting areas along the shorelines will not change. All alternatives would build roads that would provide foot access. Closed roads will be used for foot access until the regeneration of alder makes them impassable. Alternatives 2 and 5 would increase access through the construction and maintenance of open roads. It is expected that the roads that will remain open to motorized vehicle use will be used by upland bird hunters.

Competition for Upland Birds and Waterfowl

Competition for birds is not expected to increase as a result of this project. In the future, bird hunting may increase in proportion to the population increase. Bird hunting is usually done in the area surrounding the community. No hunters from other areas are expected to start using the Woodpecker Project Area as a result of this project. No change in competition for birds is expected from this project.

Timber and Plants Effects and Evaluation

Personal Use Timber and Firewood

Each Alaska resident is entitled to 10,000 board feet of sawtimber and 25 cords of firewood every year for personal use, regardless of rural or non-rural residency status. Current subsistence wood use by all users within the Woodpecker Project Area is estimated at an average of 10-12,000 board feet of sawtimber and 30 cords of firewood per year. This use occurred mostly in the northeast corner (Roads 6286 and 40006) after those roads were built in the late 1980s. These roads accessed a stand containing western redcedar, which is a preferred building material. The personal use of sawtimber has since declined in the area. There were no permits issued in 1999 for personal use sawtimber in the project area. The area is not as heavily used for firewood gathering as other places on Mitkof Island because of the distance from town. Firewood gathering sometimes occurs in conjunction with berry picking during family outings.

Harvesting timber would have both positive and negative effects on subsistence wood use. One positive effect would be the increased access

to forested areas with the construction of new roads. Firewood may also be made available at the landings. However, this increased access would only be temporary, since almost all new classified roads and all new temporary roads are proposed for closure after timber harvest is complete. If substantial amounts of firewood exist along a temporary road, this road may be left open for a period after the sale is closed, to allow the public access for firewood gathering. This determination will be made at the time of sale design and will consider the need for resource protection.

A possible negative effect from timber harvest is the fact that the sale area is closed to public use when there is a sale under contract. Since the sales are planned over a period of years, this could close various areas from personal use and firewood gathering.

Some timber considered suitable for timber harvest is within the old-growth habitat reserves. Subsistence timber harvest is allowed within old-growth habitat reserves in locally determined areas, if determined to be consistent with old-growth habitat objectives. Within the Woodpecker Project Area, the only area within an old-growth habitat reserve that would be open to subsistence timber harvest would be along Road 6245. The amount of firewood taken along the roadside would not affect the viability of the reserve. No personal use sawtimber permits would be allowed in this area.

Personal Use Timber Effects and Evaluation

Alternatives 2, 5, and 6 would have a positive effect on access to timber since there would be new roads left open after timber harvest. Alternatives 2 and 6 would have 1.8 miles of new open road and Alternative 5 would have 1 mile of new open road. Alternatives 3 and 4 include only temporary roads, which would be closed after harvest. Each of these roads would be examined at the time of sale design to see if the opportunity exists to provide firewood access for the public. The amount of wood made available is expected to be minor.

Some areas may be temporarily closed to personal use harvest while sales are active or under contract. The effects on subsistence timber and firewood gathering from these temporary closures are expected to be minor.

Options 1 and 2 for the South Blind Slough Small Old-growth Habitat Reserve would have less of an effect on subsistence use than the Forest Plan design, since those options avoid inclusion of Road 6245.

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The design options for the Woodpecker Cove Small Old-growth Habitat Reserve and the Wrangell Narrows Small Old-growth Habitat Reserve would not affect access to subsistence timber. The areas are steep and mostly inaccessible by road, making them unsuitable for subsistence timber and firewood harvest.

Food Plants Effects and Evaluation

Partial cuts with less retention of overstory trees (less than 30 percent) would probably improve the abundance of berries in the short term, because many of these plant species thrive on open exposed slopes (Alaback 1982). Based on a projected increase of berries and the locations of the potential activities, none of the alternatives is expected to significantly affect subsistence plant gathering for food, either positively or negatively. Reasonably foreseeable effects of the action alternatives on the abundance and distribution of food plants would be minimal and favorable.

Marine Mammals Effects and Evaluation

The Marine Mammal Protection Act of 1972 prohibits the taking of marine mammals by anyone other than Alaska Natives. The Act allows Alaska Natives to take marine mammals for subsistence or to create authentic native handicrafts or clothing as long as it is not accomplished in a wasteful manner.

The TRUCS data indicate that some harvest of marine mammals by Wrangell residents has been reported to occur near the Woodpecker Project Area in Sumner Strait and South Blind Slough. The only marine activity associated with the Woodpecker Project is potential use of the existing LTF near Woodpecker Cove. The only potential marine mammal haulout in this area is a small island with exposed rocks located more than one mile west of the LTF site. Forest Plan standards and guidelines for protection of marine mammal habitat will be adhered to and none of the alternatives are expected to negatively impact marine mammals. No significant restriction to the subsistence use of marine mammals is expected under any alternative.

Cumulative Effects

The subsistence analysis evaluates whether the project, in combination with other past, present, and reasonably foreseeable future actions, may significantly restrict subsistence uses. Although the precise location of future projects is not known, some conclusions can be reasonably made about future impacts.

Activities on non-National Forest System lands in the Woodpecker Project Area may affect subsistence resources harvested by local residents. Much of the state land has already been logged. At this time, there are no plans to harvest timber on state land in the Woodpecker Project Area, and little additional logging is expected on state land within

the project area in the foreseeable future. A proposed state ferry terminal on the south end of Mitkof Island could increase the numbers of hunters on Mitkof Island, or it could decrease hunting pressure by giving Petersburg subsistence hunters opportunities to travel to other areas, such as Prince of Wales Island. None of the actions proposed in this project is expected to have any effect on the proposed Alaska Marine Highway ferry system. The cumulative effects of past activities on non-National Forest System lands are not expected to impact subsistence use of wildlife significantly beyond those impacts described in this analysis.

Several measures are designed to maintain subsistence species over time, especially deer and marten populations. Habitat is set aside in 1,000-foot beach and estuary buffers. These areas protect key habitats for deer winter use, black bears, furbearers, waterfowl, and intertidal food gathering. Application of Forest Plan Riparian Standards and Guidelines will minimize future impacts to fish habitat. Partial harvest will maintain old-growth forest in many of the proposed harvest units. Other measures include maintaining marten trees in all harvest units in high value marten habitat. Additional measures designed to protect deer habitat are discussed in the Deer Hunting section of this chapter.

The Federal Subsistence Board has the authority to regulate subsistence and non-subsistence use of resources in the Tongass National Forest when those resources are approaching scarcity. If necessary, this type of action, as prescribed by ANILCA Section 804, could be used to ensure the availability of adequate subsistence resources needed by the rural communities using the Woodpecker Project Area.

ANILCA Compliance

The actions proposed in this document have been examined to determine whether they are in compliance with the Alaska National Interest Lands Conservation Act (ANILCA) Section 810. Standards used for the review include:

- National Forest Management Act of 1976 and its implementing regulations
- Alaska National Interest Lands Conservation Act (1980)
- Alaska Regional Guide (1983)
- Tongass Land and Resource Management Plan (1997)
- Tongass Timber Reform Act (1990)
- Alaska State Forest Practices Act (1993)
- Alaska Coastal Management Program (1997)
- Multiple Use Sustained Yield Act (1960)
- USDA Forest Service Subsistence Management and Use Handbook (FSH 2609.25)

The actions have been determined to be in compliance with these standards, and with ANILCA.

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Necessary and Consistent with Sound Management of Public Lands

ANILCA placed an emphasis on the maintenance of subsistence resources and lifestyles. However, the Act also required the Forest Service to make timber available for harvest from the Tongass National Forest. The Forest Plan determines which uses are suitable for various areas of land within the Tongass National Forest. The Forest Plan has determined that the Woodpecker Project Area should be managed for varying levels of timber production.

Amount of Land Necessary to Accomplish the Purpose of the Proposed Action

The amount of public land necessary to implement each of the alternatives is, considering sound multiple use management of public lands, the minimum necessary to accomplish the objectives of the alternative. Much of the Tongass National Forest is used by one or more rural communities for subsistence purposes. It is not possible to lessen timber harvest in one area and concentrate it in another without impacting one or more rural communities' important subsistence use areas.

Many of the decisions to minimize the amount of public land that would be used for timber harvest were made as part of the Forest Plan. The Forest Plan allocated many important subsistence use areas to land use designations that do not allow timber harvest.

The Woodpecker Project Area is about 33,000 acres. The acreage for proposed harvest units range from about 500 acres in Alternative 3 to about 1,850 acres in Alternative 4. Much of this will occur as partial harvest. In many of the harvest units in all action alternatives, 50 to 75 percent of the trees will be left. Each alternative provides a sound location and design for all harvest units and roads. Given the framework and emphasis of the alternative, the minimum amount of land was used to resolve resource concerns while meeting the purpose and need for the project in a practical and efficient manner.

The extent and location of the subsistence use areas in the Woodpecker Project Area make it impossible to completely avoid subsistence areas during timber harvest. However, large areas of critical deer habitat are protected in old-growth habitat reserves and 1,000-foot beach-fringe buffers. Beach-fringe buffers also protect important waterfowl hunting areas, shellfish gathering areas, and historical fur trapping areas. Fish habitat is protected in each alternative through the application of Forest Plan standards and guidelines. Existing roads and logged areas are

heavily used for subsistence hunting. Road access restrictions are proposed to keep future motorized access by hunters comparable to the current situation in all alternatives. Alternatives 2 and 6 may have a slight increase in use for Roads 6282 and 6245 due to the construction of a loop road. Alternatives 2, 5, and 6 will also build an additional one mile of classified road that will remain open for public use.

Reasonable Steps to Minimize Adverse Impacts Upon Subsistence Uses and Resources

Chapter 2 and Appendix B describe mitigation measures that will be implemented as part of each alternative. Most of the mitigation measures are designed to maintain fish and wildlife habitat productivity, while still harvesting timber to meet the purpose and need of this project. One of the most significant protection measures is the use of timber harvest methods other than clearcutting. Large reserve trees or removal of patches of trees with openings less than or equal to two acres will be implemented in all units containing high-value marten habitat, according to the Forest Plan standards and guidelines. In many units, the harvested timber will be dispersed throughout the unit, leaving 50 to 75 percent of the trees after harvest. Such harvest will maintain overstory canopy that will reduce impacts to deer winter habitat and old-growth habitat. Most roads proposed for construction will be closed following logging to reduce impacts to fish and wildlife species sensitive to overharvest, such as wolves and marten. Small old-growth habitat reserves have been designed to improve protection of high-value deer winter habitat and connectivity among reserves.

Fish habitat is protected in each alternative through the application of Forest Plan standards and guidelines. In addition to protecting fish habitat, estuarine and riparian buffers also protect habitat important to other species such as deer, black bear, and furbearers.

Timber management using a 200-year rotation was prescribed for the Woodpecker Project Area because of the high level of subsistence use of deer and because of the importance of the deer winter habitat found in the area. The increased timber harvest rotation is intended to address projected deer habitat capability declines. A longer rotation provides for:

- maintaining corridors for connectivity,
- maintaining a diversity of age classes of trees, and
- addressing site-specific issues.

In addition, thinning and pruning of second-growth stands will maintain forage over time. Alternatives have been developed to limit logging in areas where deer concentrate during severe winters.

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Conclusion and Findings

A subsistence hearing was held in Petersburg, Alaska on October 4, 2000. Petersburg is the community that is most likely to be affected by any changes in subsistence resource availability on Mitkof Island. About seven people attended the hearing, and three of those provided oral and/or written testimony. The three people who testified were all subsistence users of the Woodpecker Project Area. The concerns expressed in their testimonies centered on the effects of partial harvest on deer winter habitat, the effectiveness of stream crossing structures in fish-bearing streams, and the need for improved roaded recreation opportunities such as pullouts and loop roads. A transcript of the hearing is filed in the project planning record.

The potential foreseeable effects from the action alternatives in the Woodpecker Project Area are not expected to result in a significant restriction of subsistence uses of black bear, moose, furbearers, marine mammals, upland birds, waterfowl, salmon, other finfish, shellfish, or other foods. Based on the subsistence deer harvest reported by the Alaska Department of Fish and Game and other subsistence use information, such as TRUCS, personal use timber information, and community information from the Forest Plan, the current level of subsistence harvest can be achieved for any of the alternatives for black bear, moose, furbearers, marine mammals, waterfowl, salmon, other finfish, shellfish, food plants, and timber.

Based on the habitat modeling and subsistence deer harvest reported by the Alaska Department of Fish and Game and the Forest Plan, the current level of subsistence harvest (1992-1999) can be achieved for any of the alternatives within the Woodpecker Project Area. However, the historical deer harvest of the 1960s on Mitkof Island, which was possibly due to an artificially high deer population that resulted from predator control and mild winters, cannot be met with any alternative, including the No-Action Alternative. In addition, the historical deer harvest level, length of season or bag limits are not likely to be achieved in the foreseeable future as a result of past timber harvest, expanding human populations, and less aggressive predator control. Therefore, there is a significant possibility of a significant restriction on the subsistence use of deer, when compared to the deer harvest levels of the 1960s.

The possibility of this restriction is necessary and consistent with sound management principles for the utilization of public lands and will involve the minimal amount of public lands necessary to accomplish the purposes of this use. Reasonable steps have been taken to minimize the adverse impacts upon subsistence uses and resources. These steps include the use of a 200-year timber harvest rotation, protection of high value deer winter habitat, the use of partial harvest, and maintaining landscape connectivity between areas of high value deer winter habitat. The Forest Plan Record

of Decision disclosed that, based on analysis, there may be some areas where projects may affect the abundance and distribution of deer and competition among hunters.

Heritage Resources

Introduction

Heritage resources include an array of historic and prehistoric period cultural sites and traditional cultural properties. Because known and previously undiscovered sites may lie within a project area, the Forest Service conducts heritage resource investigations following the Section 106 process of the National Historic Preservation Act. If heritage resources are found within a project area, measures are taken to avoid impact to the site. If impact is unavoidable, the Forest Service, in consultation with the State Historic Preservation Officer, plans and implements measures to mitigate any effects.

Past Cultural Environment

Oral tradition and ethnographic accounts name the Tlingit Indian as the dominant Native people of Southeast Alaska. The Woodpecker Project Area is in the territorial division or *kwan* of the Stikine Tlingit, a group whose area included the mainland coast from Cape Fanshaw to about the midpoint of the Cleveland Peninsula, the east half of Kupreanof Island, parts of Prince of Wales Island and all of Mitkof, Zarembo and Etolin Islands (Olson 1967). Archaeological site types common to the region include villages, seasonal camps, fish traps and weirs, and resource procurement/gathering areas. The earliest known archaeological site in Southeast Alaska is on nearby Prince of Wales Island. Investigations at the site suggest that humans have been occupying the region for close to 10,000 years.

Trapping, fur farming, fishing, timber harvest and mineral exploration have historically drawn people to Mitkof Island. Petersburg was established around 1898 and soon became a thriving fishing community complete with canneries, salteries, cold storage, sawmills and fur farms.

Project Investigations

A heritage resource evaluation of the Woodpecker Project Area began with researching historical and ethnographic accounts, previous heritage resource surveys, Alaska Heritage Resource Survey (AHRS) listings, Petersburg Ranger District files and atlases, special use permit files and land status atlases. Forest Service archaeologists conducted six heritage resource surveys in the Woodpecker Project Area between 1978 and 1995. Research methods include literature searches, visual reconnaissance and shovel and soil probe testing. Fieldwork initiated for

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the Woodpecker Project Area took place in summer 1998 and includes the complete survey of approximately 660 acres.

Comment was encouraged at public meetings held in Petersburg and Kake. We attended council meetings of the Petersburg Indian Association and the Organized Village of Kake and sent a letter to the Wrangell Cooperative Association to provide opportunities for discussion and input. Copies of our heritage resource report were made available for review and comment. All work was initiated in compliance with Section 106 of the National Historic Preservation Act. Formal documentation about surveys and results are filed at the Petersburg Ranger District office in Petersburg, Alaska. Some information pertaining to identified heritage resources is restricted from public access due to the sensitive and non-renewable nature of the resources.

The heritage resource survey strategy follows stipulations set forth in a Programmatic Agreement (1995) between the Forest Service, Alaska Region, the State Historic Preservation Officer and the Advisory Council on Historic Preservation. The stipulations were met to satisfy the Forest Service's Section 106 responsibilities under the National Historic Preservation Act. Archaeologists discovered 18 culturally modified trees (CMTs) and three new AHRS sites in the Woodpecker Project Area, including a historic period log cabin and the remains of two prehistoric period wood-stake fish weirs. The two fish weirs are eligible for nomination to the National Register of Historic Places. The cabin and the CMTs do not meet eligibility criteria.

Direct and Indirect Effects

None of the Woodpecker Project Area alternatives would have any direct or indirect effects on known sites in the project area. All of the identified heritage sites lie outside harvest unit boundaries and proposed road locations. Some undiscovered sites may exist in the project area. If a new site is discovered, a professional archaeologist will evaluate it and mitigation plans will be initiated prior to any work that may adversely affect the resource.

The heritage resource information we compiled is detailed in a report submitted to the Alaska State Historic Preservation Officer. The conclusions state that none of the heritage resources identified will be affected by the proposed alternatives. The Section 106 consultation process was completed and the Alaska State Historic Preservation Officer concurred with our findings and recommendations.

Cumulative Effects

Threats to significant heritage resources include development, decay, natural landscape changes such as erosion and windthrow, and increased visitation, which might increase erosion or lead to vandalism or looting. Monitoring of known sites will reduce possible impacts by identifying effects, enabling mitigation and establishing a periodic presence. Beach fringe, stream and estuary buffer zones will further protect heritage resources from project-related activities. The Woodpecker Project Area road system does not provide increased access to known paleontological, archaeological or historical sites. Periodic monitoring of road construction may identify newly exposed sites and enable damage assessment. There are no known traditional cultural properties in the Woodpecker Project Area that will be affected by changes in the management of roads or harvest units.

Non-National Forest Lands and Uses

The Federal Government owns the majority of the land in the Woodpecker Project Area. The USDA Forest Service manages all of the federal land. Of the approximately 33,000 acres in the project area, only about 4,000 acres or 12 percent are owned by the State of Alaska or private landowners. Less than 1 percent of the acres are private land. The Alaska Department of Natural Resources manages the state land. The non-National Forest System lands are shaded as diagonal crosshatched on the document maps throughout the document.

State of Alaska Lands

Within the Woodpecker Project Area, there are approximately 4,000 acres of state land in two blocks. One block, 2,165 acres, is located in the southern part of the project area, adjacent to Sumner Strait.

Approximately 5 miles of the Woodpecker Road (Road 6245) passes through this land, providing roaded access to the area. Access is also possible by water. The Woodpecker Cove log transfer facility that is on 3 ½ acres of National Forest System land is located within this state land parcel. The Forest Service has retained ownership of the right-of-way of this road for a 66-foot width, and the Woodpecker LTF.

The other block of state land, 2,270 acres, is along the Wrangell Narrows at the mouth of Blind Slough. About 1,670 acres of this block is within

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the northwestern portion of the Woodpecker Project Area. There is no road access to this land, but access is possible by water.

Both of these tracts of land are managed by the Alaska Department of Natural Resources using the Central/Southern Southeast Area Plan, which was adopted November 2000.

State Subdivision The state has subdivided about 150 acres along the shoreline of the Wrangell Narrows into about 50 lots for sale to the public. Several parcels of land have been sold along the beach, but not all of the lots have been sold. These private lots will not be adjacent to National Forest System lands, but will be adjacent to another parcel of state land.

Beecher Pass State Marine Park The area allocated for Beecher Pass State Marine Park is located on the southern tip of the Lindenberg Peninsula across the Wrangell Narrows to the west of the Woodpecker Project Area. There are no facilities in this area at this time.

Proposed Ferry Terminal The Alaska State Department of Transportation and Public Facilities (ADOTPF) is proposing to build a new ferry terminal on the south end of Mitkof Island. Two alternatives are currently being considered. These include an area south of Olsen's Landing at milepost 25, and further east at milepost 27.5 along the Mitkof Highway on the southeast part of the island. These sites are outside the Woodpecker Project Area, on State of Alaska lands. The ADOTPF is currently doing an Environmental Assessment to analyze the effects of the new terminal.

Private Land

A block of approximately 130 acres of land about one mile north of December Point along the Wrangell Narrows is privately owned. This block was clearcut in 1975. Currently, there is no road access to this land. The logging road that was used during timber harvest has grown over with alder, and there are no known improvements on the property.

Beecher Pass Area Residences Numerous residences are scattered along the shoreline of the Wrangell Narrows at Beecher Pass on Kupreanof Island to the northwest of the Woodpecker Project Area. Some of the project area is visible from the residences. No proposed timber harvest units or new roads will be visible from the Beecher Pass area.

Special Use Permits

There are three special use permits that involve land use within the Woodpecker Project area. There are also special use permits for outfitter/guides to use the area. These activities are discussed in the Recreation section of this chapter.

The U.S. Coast Guard operates a Navigational Aid on land adjacent to the Wrangell Narrows and has a lighthouse reserve on the southwestern tip of Mitkof Island. These areas combined encompass about two acres. There is a special use permit recreation cabin at December Point on Wrangell Narrows. The water supply for this cabin drains from National Forest System land. Two timber harvest units, Units 148 and 148a, are located above the headwaters of the stream about $\frac{3}{4}$ mile to 1 mile away. This project will have no effect on this water supply.

Direct Effects

The proposed activities for this project will have little or no effect on the non- National Forest System lands. The effects are listed below and are discussed in other sections of this chapter, such as Recreation, Fish Habitat and Water Quality, and Wildlife.

Alternative 1

There are no proposed timber harvest units or new road construction in this alternative and therefore there will be no effect from these activities. Current maintenance levels of Road 6245 will give the State of Alaska the same access to the southern block of state land. There will be no effect on special use permits or scenery from private lands.

Alternatives 4, 5 and 6

No proposed timber harvest units or new road construction would directly affect or be adjacent to any private or state lands. Units 105 and 109 are within $\frac{1}{2}$ mile of state land. The units closest to private land are Units 67 and 73, which are about $\frac{1}{2}$ mile away. Road 6245 would have increased maintenance, improving access to state lands. After harvest, the drainage structures would be removed from Road 6283, which is partially on state land, and the road would be put into storage. Road 40083, which is also partially on state land would also be put into storage. The Woodpecker Cove LTF may be used. There would be no effect on special use permits. Scenic values from private lands would remain the same.

Alternatives 2 and 3

No proposed timber harvest units or new road construction would directly affect or be adjacent to any private or state lands. There is only one unit, Unit 105, within $\frac{1}{2}$ mile of state land. The units closest to private lands are Units 67 and 73, which are about $\frac{1}{2}$ mile away. Road 6245 would have increased maintenance, improving access to state lands. The drainage structures would be removed from Roads 6283 and 40083, which are partially on state land, and these roads would be put into

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storage. The Woodpecker Cove LTF may be used. There would be no effect on special use permits. Scenic values from private lands would remain the same.

Cumulative Effects

All state-selection parcels have been finalized within the Woodpecker Project Area. The Alaska Department of Natural Resources is proposing to manage the state land within the project area for multiple uses, including dispersed recreation, wildlife habitat, and current and future forest values (Central/Southern Southeast Area Plan, November 2000). Emphasis is placed on several parcels of state land in the northwest part of the Woodpecker Project Area to maintain wildlife habitat, especially for deer and scenic values. This is compatible with the adjacent Tongass National Forest Old-growth Habitat and Scenic Viewshed land use designations.

The private land along the Wrangell Narrows would not be affected. Some additional parcels may be sold at the mouth of Blind Slough just north of the Woodpecker Project Area in the northwest corner. Any proposed projects in this analysis will not be seen from this area.

Geology, Karst and Minerals

The landforms of Southeast Alaska have been shaped by the movement of glaciers over the landscape since about one million years ago. As the glaciers retreated, the exposed landscape revealed steep U-shaped valleys with numerous streams, with the more resistant rocks remaining as mountains. Within the Woodpecker Project Area, there are several peaks greater than 2,000 feet in elevation. The peak of Crystal Mountain, at 3,317 feet in elevation, is the northern boundary of the Woodpecker Project Area. Sumner Mountains are in the southwestern corner of the area. These mountains drop steeply to the shoreline of Sumner Strait and the Wrangell Narrows.

The Woodpecker Project Area is underlain by a mixture of Cretaceous (65-135 million years before present) and Jurassic (135-195 million years before present) volcanic rocks, Cretaceous plutonic rocks such as granodiorite and tonalite, and Cretaceous and Jurassic sedimentary rock. There appears to be a complete absence of carbonate rock in the Woodpecker Project Area. Carbonate rock is necessary for the development of karst (Baichtal and Swanston, 1996).

Karst

Due to the absence of carbonate rock within the Woodpecker Project Area, no karst or caves are present. None of the proposed actions would affect any karst or karst-related resources.

Minerals

The Bureau of Land Management's Mining Claims Report dated July 28, 2000 (BLM, 2000) shows no valid mining claims in the Woodpecker Project Area. No requests for mineral exploration in the Woodpecker Project Area have been received.

Wild, Scenic and Recreational Rivers

There are no designated or recommended Wild and Scenic Rivers within the Woodpecker Project Area. However, Blind River, located north of the project area, but not adjacent to the area, has been recommended in the Forest Plan for designation as a Recreational River along its entire five-mile length. The stream has high fish values for steelhead, coho, king, chum, and pink salmon, and cutthroat and Dolly Varden trout. Blind River also has high wildlife and recreation values.

The State of Alaska operates a fish hatchery on Blind River that produces an excess of returning fish including king salmon and coho salmon. Sport and subsistence fishing are usually encouraged to harvest the excess fish. Personal use gillnetting for coho is also allowed at the mouth of Blind River. The Forest Service manages a picnic area along the riverbank opposite the hatchery. Swimming is popular on warm summer days and the area is sometimes crowded. Canoeing and kayaking are also popular at this site. In the winter, when conditions allow, ice-skating, cross-country skiing, and snowmobiling are also popular activities on Blind River.

The Petersburg Municipal Power and Light Company operates a hydroelectric generating plant next to the fish hatchery. A water pipeline brings water to the plant from Crystal Lake, which is on the south side of Blind River.

About one mile from the mouth of the river, a Forest Service trail leads from the highway to Blind River Rapids. This is a major sport fishing area where one can fish from the stream bank for king salmon, coho, and steelhead. It is popular with local area residents and tourists. The trail and fishing area have recently been upgraded to accommodate wheelchairs. The area has become a tourist attraction for fishing, sightseeing, and organized groups.

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A bird observation blind is located along the Mitkof highway about a mile downriver from the hatchery. Parts of Blind River remain ice-free longer than most freshwater areas. It is important winter habitat for trumpeter swans and is one of the few wintering areas in Southeast Alaska for trumpeter swans. The area downriver from the bridge to the hatchery is closed to outboard motors and off-highway vehicles (including snowmobiles) to prevent harassment of the swans. Part of the area surrounding Blind River is also closed to hunting.

Direct and Indirect Effects

None of the action alternatives would have any direct effects on any of the outstandingly remarkable values of Blind River. None of the alternatives will affect the recreation or wildlife values of the river. Several tributaries flow into Blind River. Neither the main river nor its tributaries are within watersheds where timber harvest is proposed. None of the proposed alternatives will have any effect on the fish values or water quality of Blind River.

The Forest Plan allows timber harvest within the Recreational River land use designation only when this designation is adjacent to a development LUD such as Scenic Viewshed, Modified Landscape, or Timber Production. Since Blind River is surrounded by Old-growth Habitat LUD and Special Interest Area LUD, timber harvest within the Recreational River LUD is not compatible with this land use designation.

No timber harvest units are proposed in the foreground distance from the river corridor. Only portions of two small units (less than 15 acres) proposed in the middleground distance (1/4 mile to 5 miles) might be seen from the extreme southern end of the river corridor. This part of the river corridor receives very little recreation use, except for an occasional cross-country skier in the winter.

The visual effects from Units 166a and 174 are expected to be minimal. The viewing distance to Unit 166a is at least 1.5 miles, and to Unit 174 the distance is at least 1.75 miles. Alternatives 2, 4, and 6 propose harvest with 50-66 percent retention in Unit 166a and 20-30 percent retention in Unit 174. Alternative 5 proposes harvest with 20-30 percent retention in Unit 166a. Alternative 3 proposes the least harvest with 50-66 percent retention in Unit 166a. The harvest in these units in all alternatives will meet the Visual Quality Objective of Partial Retention. These units will not dominate the view and may not even be noticed by the casual observer.

Overall, the proposed recreation projects will have no direct effects on Blind River. If there are more dispersed recreation opportunities available in the Woodpecker Project Area, some people may choose to recreate in places other than Blind River. This indirect effect would

probably be minimal however, since the fishing and recreation opportunities available along Blind River are unique for Mitkof Island.

Cumulative Effects

Other timber harvest projects planned for the foreseeable future on Mitkof Island include the Overlook Project Area, which is northeast of the Blind River corridor. The Overlook Project Area lies on the far side of a ridge from Blind River and would have no effect on the river corridor.

Specifically Required Disclosures

The Proposed Action and the alternatives to the Proposed Action for the Woodpecker Project Area will be consistent with other federal and state environmental laws and executive orders. These laws and orders have been met to the extent practicable and the effects have been analyzed and documented. Several of the laws and executive orders listed in Chapter 1 require project-specific findings or other disclosures. These are included here, and in the Record of Decision. They apply to all alternatives considered in detail in this EIS.

National Forest Management Act

Tongass Land and Resource Management Plan and Alaska Regional Guide

All project alternatives fully comply with the Tongass Land and Resource Management Plan and the Alaska Regional Guide. This project incorporates all applicable Forest Plan Forest-wide standards and guidelines and management area prescriptions as they apply to the Woodpecker Project Area, and complies with Forest Plan goals and objectives. All required interagency review and coordination has been accomplished.

The Forest Plan complies with all resource integration and management requirements of 36 CFR 219 (219.14 through 219.27). Application of Forest Plan direction for analysis of the Woodpecker Project Area ensures compliance at the project level.

The National Forest Management Act limits the size of the harvested opening that may be created based on the forest type. For the coastal Alaska western hemlock/Sitka spruce forest type, the maximum created opening size allowed is 100 acres. No proposed harvest units in the Woodpecker Project Area will result in openings greater than 100 acres. Specific NFMA findings pertaining to silvicultural systems are included in the vegetation section of Chapter 3, and in Appendix B.

Forest Service Transportation Final Administrative Policy

(Roads Rule)

The Tongass National Forest has prepared the Woodpecker Project Area Final EIS to be consistent with the Forest Service Transportation Final Administrative Policy (Roads Rule). Among other direction, the Roads Rule requires that an area-specific roads analysis be completed and a determination of need for amendment or revision of the Forest Plan be made if any roads are to be constructed or reconstructed in inventoried roadless or contiguous unroaded areas, until a forest-wide roads analysis has been completed (FSM 7712.16(c)). This analysis has been made for the Woodpecker Project Area and can be found in the Mitkof Island

Roads Analysis Report located in the project planning record. The determination for the Mitkof Island Roads Analysis Report is included as Appendix 2 of the Record Of Decision. A separate interim directive (7710-2001-1) extends the deadlines for requiring roads analysis for all road management decisions to January 12, 2002 (FSM 7712.15), but does not apply to FSM 7712.16.

Endangered Species Act

None of the action alternatives is anticipated to have a direct, indirect, or cumulative effect on any threatened or endangered species in the Woodpecker Project Area or elsewhere. The National Marine Fisheries Service was consulted after the publication of the Draft EIS regarding the actions described and the effects to threatened and endangered marine species within the proposed project area. Formal consultation with the U.S. Fish and Wildlife Service was not necessary for this project since no terrestrial threatened or endangered species are known to occur within the Woodpecker Project Area. A Biological Assessment has been completed for the Final EIS and is included in the planning record.

Bald Eagle Protection Act

To comply with the Bald Eagle Protection Act, management activities are restricted within 330 feet of an eagle nest site by a Memorandum of Understanding (MOU) between the Forest Service and the U.S. Fish and Wildlife Service. None of the action alternatives is anticipated to have a significant direct, indirect, or cumulative effect on any bald eagle habitat. If any nests are found that may be affected, the MOU and Forest Plan Standards and Guidelines will be followed.

Tongass Timber Reform Act

Harvest units were designed and located to maintain a minimum 100-foot buffer zone for all Class I streams and Class II streams that flow directly into Class I streams as required in Section 103 of the TTRA. As discussed in Appendix B, the actual widths of these buffer strips will often be greater than the 100-foot minimum. The design and implementation direction incorporates Best Management Practices (BMPs) for the protection of all stream classes. If an action alternative is selected, the timber from this proposed project would provide part of the timber supply to the Tongass National Forest's program to seek to meet market demand.

National Historic Preservation Act

Heritage resource surveys of various intensities have been conducted in the Woodpecker Project Area, following inventory protocols approved by the Alaska State Historic Preservation Officer. These surveys include background and existing literature searches and fieldwork complete with subsurface testing. Native communities have been contacted, and public comment encouraged. The opportunity to discuss known or suspected heritage resources in or near the Woodpecker Project Area was encouraged at open houses held in Petersburg and Kake. The Petersburg Indian Association and the Organized Village of Kake were consulted during analysis for this project. The State Historic Preservation Officer has been consulted and concurred with our finding that no known historic properties are in the area of potential effects.

Federal Cave Resource Protection Act of 1988

Forest Plan Karst and Caves Standards and Guidelines are applied to areas known or suspected to contain karst resources. No evidence of karst or caves has been documented in the Woodpecker Project Area, and no caves were discovered during this analysis. Therefore the action alternatives will not have a direct, indirect, or cumulative effect on any significant cave in the Woodpecker Project Area.

Alaska National Interest Lands Conservation Act (ANILCA) Evaluations and Findings

A subsistence evaluation was conducted for the alternatives considered in detail, in accordance with ANILCA Section 810. The evaluations in the Subsistence Report on abundance and/or distribution, access and competition for harvested resources in the Woodpecker Project Area indicate that, except for deer, there will not be a significant possibility of a significant restriction to the customary and traditional subsistence uses of wildlife, fish and shellfish, marine mammals, other foods, or timber resources as a result of this project.

Based on the habitat modeling analysis and the levels of subsistence deer harvest reported by Alaska Department of Fish and Game, this evaluation concludes that there may be a significant possibility of a significant restriction on the current level of subsistence deer harvest on Mitkof Island.

Clean Water Act

The design of harvest units and roads for this project is in accordance with standards, guidelines and direction contained in the Forest Plan, Alaska Regional Guide, Best Management Practices, and applicable Forest Service manual and handbook direction. The Activity Cards in Appendix B contain specific practices prescribed to prevent or reduce non-point sediment sources. Monitoring and evaluation of the implementation and effectiveness of Forest Plan standards and guidelines, and Best Management Practices will occur. Project activities are expected to meet all applicable State Water Quality Standards Regulations.

State regulations provide for variances from anti-degradation requirements and water quality criteria. The harvest and road-building operators are responsible for compliance, including obtaining any variance required by the state. The Forest Service will monitor for compliance. The Forest Service expects the Woodpecker Project Area activities, which include timber harvest, recreation site development, road building, and watershed improvement, to fully qualify for any variance required by the state, according to the criteria in 18 AAC 70.015.

All roads, landings, and rock pits for this project will be constructed in accordance with Best Management Practices listed in 33 CFR 323.4(a). Except for the loop road extension, which will be maintained for standard passenger vehicles, all roads, landings and rock pits will be designed to minimum standards to accommodate timber harvesting and silvicultural activities. Permits under Section 404 of the Clean Water Act will be required for a portion of the loop road extension, and for the recreation developments that involve construction in wetlands. These activities will comply with all provisions of the permits.

Clean Air Act

Emissions expected from implementation of any of the action alternatives would be of short duration and are not expected to exceed State of Alaska Ambient Air Quality Standards (Alaska Administrative Code, Title 18, Chapter 50).

Coastal Zone Management Act

The Coastal Zone Management Act of 1972 (CZMA), while specifically excluding Federal lands from the coastal zone, requires that a Federal agency's activities be consistent with the enforceable standards of a

3 Disclosures

state's coastal management program to the maximum extent feasible when the agency's activities affect the coastal zone. The State of Alaska developed the Alaska Coastal Management Program in 1977 to evaluate any projects within the coastal zone.

The enforceable standards for timber harvest activities are found in the State Forest Practices Act. The standards and guidelines for timber management activities in the Woodpecker Project Area meet or exceed the standards in the State Forest Practices Act.

A Memorandum of Understanding specifies procedures between the Forest Service and the state of Alaska. The state agencies involved are the Division of Governmental Coordination, Department of Fish and Game, Department of Natural Resources, and the Department of Environmental Conservation. This memorandum serves to describe the process and expedite the review of whether a proposed project is consistent with the Alaska Coastal Management Program.

The Forest Service developed the Proposed Action and alternatives to the Proposed Action to be consistent, to the maximum extent feasible, with the enforceable policies of approved state management programs. The Forest Service has determined that all the alternatives for the Woodpecker Project Area are consistent, to the maximum extent feasible, with the Alaska Coastal Management Program, as outlined in the Memorandum of Understanding. The state has concurred with this determination for the preferred alternative of the Draft EIS and for Alternative 6.

Magnuson-Stevens Fishery Conservation and Management Act

According to the agreement between the National Marine Fisheries Service and the USDA Forest Service dated August 25, 2000, an assessment will be done that will include:

- 1) a description of the proposed action,
- 2) an analysis of individual and cumulative effects of the proposed action on the essential fish habitat, the managed species, and associated species such as major prey species, included affected life histories,
- 3) the Forest Service's views regarding effects on essential fish habitat, and
- 4) a discussion of proposed mitigation, if applicable.

The Draft Environmental Impact Statement covered these points and was sent to the National Marine Fisheries Service for review. No response was received, indicating concurrence with our determination that “the proposed activities are unlikely to adversely affect essential fish habitat within the Woodpecker Project Area.”

Effects on Prime Farm Land, Range Land, and Forest Land

No prime farm land or range land will be adversely impacted by the action alternatives. Forest land will maintain its long-term productivity, with the exception of those acres affected by classified road construction in Alternatives 2, 5, and 6. This would amount to less than 25 acres for Alternatives 2 and 6 and less than 15 acres for Alternative 5.

Effects on Civil Rights, Women, and Minorities

This project will not cause adverse impacts to civil rights, women, or minorities.

Executive Order 11593

Executive Order 11593 directs Federal agencies to provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation. The work we accomplished in accordance with Section 106 of the National Historic Preservation Act for the Woodpecker Project Area meets the intent of this Executive Order.

Executive Order 11988

Executive Order 11988 directs Federal agencies to take action to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains. A floodplain is defined as the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of off shore islands, including at a minimum that area subject to a one percent or greater of flooding in any given year.

Forest Plan standards and guidelines for riparian areas exclude most commercial timber harvesting from floodplains. Roads may be constructed in or through floodplains subject to the design requirements of Best Management Practices. Effects on floodplains from project activities have been avoided or minimized as much as possible.

Executive Order 11990

Executive Order 11990 requires Federal agencies to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the destruction or modification of wetlands.

This project avoids impacting wetlands whenever practicable, but because wetlands are so extensive in the Woodpecker Project Area, it is not feasible to avoid all wetland areas. Effects will be minimized by avoiding the use of wetlands as sites for overburden disposal, avoiding road construction through wetlands whenever practicable, and by closing most roads after timber harvest. Implementation of BMPs, minimizing ditching, and providing adequate cross drainage will also help minimize the amount of wetlands affected.

In a few locations, crossing a wetland area reduced the overall environmental impacts of a particular road because it facilitated avoidance of steep slopes and alignment of roads perpendicular to stream crossings. Approximately 1.1 miles of proposed classified road construction and 1 mile of proposed temporary road construction would affect wetlands in Alternative 2. Approximately 0.8 miles of proposed temporary road construction would affect wetlands in Alternative 3. Approximately 0.7 miles of proposed temporary road construction would affect wetlands in Alternative 4. Approximately 1.1 miles of proposed classified road construction and 0.7 miles of proposed temporary road construction would affect wetlands in Alternative 5. Approximately 1.1 miles of proposed classified road construction and 0.5 miles of proposed temporary road construction would affect wetlands in Alternative 6.

To reduce any road impacts to the hydrology at these sites, frequent road cross-drains will be constructed. To avoid artificial interception of water by roads, free draining coarse textured rock will be used in road foundations, and installation of an adequate size and number of culverts will be required. Drainage structures will be removed on all temporary roads.

Executive Order 12898

Executive Order 12898 directs Federal agencies to identify and address the issue of environmental justice, which concerns adverse human health and environmental effects of agency programs that disproportionately impact minority and low-income populations.

Tlingit Indians historically used various sites on Mitkof Island for small settlements and summer camps. Peter Buschmann, a Norwegian immigrant, founded the community of Petersburg at the beginning of the

1900s. Many of Petersburg's early settlers were of Norwegian and Swedish descent. With a population of approximately 3,224 (Alaska Department of Community and Economic Development, 2000), Petersburg remains today primarily Euro-American. About 12 percent of the population is Alaska Native and 8 percent of the population is other non-white groups, primarily Asian/Pacific Islanders (2000 U.S. Census). The Median Household Income is \$49,318, and 4.1 percent of the households are reported to be living in poverty.

Subsistence use of resources by residents does not vary significantly by ethnicity. No known subsistence food or material is used primarily by minorities.

Public scoping and open houses were available to all people of Petersburg and advertised through the local media, newspaper, TV scanner, local radio stations, and posted flyers at grocery stores and other businesses. See the Public Participation section in Chapter 1.

Implementation of the action alternatives for the Woodpecker Project Area will not cause adverse health, social, or environmental effects that disproportionately impact minority and low-income populations. See also the ANILCA Section 810 findings.

Executive Order 12962

Executive Order 12962 directs Federal agencies to conserve, restore and enhance aquatic systems to provide for increased recreational fishing opportunities nationwide. Section 1 of the Executive Order is most pertinent to the Woodpecker Project Area. Section 1 directs Federal agencies to evaluate effects on aquatic ecosystems and recreational fisheries, develop and encourage partnerships, promote restoration, provide access, and promote awareness of opportunities for recreational fishery resources.

The effects of this project on freshwater and marine resources were evaluated during the analysis. With the application of Forest Plan standards and guidelines, including those for riparian areas, no significant adverse effects to freshwater or marine resources are expected to occur. The proposed dispersed campsites and enlarged road turnouts in Alternatives 2, 4, 5, and 6 may enhance the recreational fishing opportunities in the area by providing sites for parking and camping.

Partnerships continue to be used to leverage Federal project funds to address water quality concerns in areas of the Tongass National Forest, although none have been proposed for recreational fisheries in conjunction with this project.

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Executive Order 13007

Executive Order 13007 directs Federal agencies to accommodate access to and ceremonial use of American Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. There are no known sacred Indian sites in the Woodpecker Project Area. Consultation with local federally recognized tribes including the Petersburg Indian Association, the Organized Village of Kake, and the Wrangell Cooperative Association occurred during the analysis of this project.

Chapter 4

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Glossary

Adfluvial fish	Species or populations of fish that do not go to sea, but live in lakes, and enter streams to spawn.
Alaska Heritage Resource Survey (AHRS)	The official list of cultural resources in the State of Alaska, maintained by the Office of History and Archaeology, Alaska Division of Parks and Outdoor Recreation.
Alaska National Interest Lands Conservation Act (ANILCA)	The Alaska National Interest Lands Conservation Act of December 2, 1980. Public Law 96-487, 96 th Congress, 94 Stat. 2371-2551. Passed by Congress in 1980, this legislation designated 14 National Forest wilderness areas in Southeast Alaska. Section 810 requires evaluations of subsistence impacts before changing the use of these lands.
All-terrain Vehicle (ATV)	A motorized four-wheeled vehicle less than 40 inches wide that is restricted by law from operating on public roads for general motor vehicle traffic.
Allowable Sale Quantity (ASQ)	The maximum quantity of timber that may be sold each decade from suitable lands on the Tongass National Forest as identified from the Forest Plan. A ceiling, not a requirement.
Alluvial Fan	A fan-shaped deposit of sand, gravel, and fine material made by a stream where it runs out onto a level plain or meets a slower stream.
Alluvium	Silt, sand, clay, gravel, or similar loose material deposited by flowing water, including the sediment laid down in riverbeds, flood plains, lakes, and at the foot of mountain slopes and estuaries.
Alpine/subalpine habitat	The region found on a mountain peak above tree growth, generally above 1,500 feet in elevation.
Anadromous Fish	Anadromous fish (such as salmon and steelhead) spend part of their lives in fresh water and part of their lives in salt water. Anadromous fish ascend from the sea to spawn in freshwater streams.
Aquatic Habitat Management Unit (AHMU)	A mapping unit that displays an identified value for aquatic resources. It is a mechanism for carrying out aquatic resource management policy. See <i>Stream Class</i> .
Background	The distant part of a landscape. The seen, or viewed, area located from three or five miles to infinity from the viewer.
Basal Area	Total cross-sectional area of a tree or a stand of trees. This is measured at diameter breast height (DBH) and can be expressed in either square feet per acre or square meters per hectare.
Beach Fringe	The area, typically forested, that is inland from saltwater shorelines.
Best Management Practices (BMPs)	Practices used for the protection of water quality. BMPs are designed to prevent or reduce the amount of pollution from nonpoint sources or other adverse water quality impacts while meeting other goals and objectives. BMPs are standards to be achieved, not detailed or site-specific prescriptions or solutions. BMPs as defined in the USDA Forest Service Soil and Water Conservation Handbook (FSH 2509.22) are mandated for use in Region 10 under the Tongass Timber Reform Act.

Glossary

Biodiversity	The variety of life forms and processes, including the complexity of species, communities, gene pools, and ecological functions, within the area covered by a land management plan.
Biological Assessment	A "biological evaluation" conducted for major Federal construction projects requiring an environmental impact statement, in accordance with legal requirements under section 7 of the Endangered Species Act (16 U.S.C. 1536(c)). The purpose of the assessment and resulting document is to determine whether the proposed action is likely to affect a species that has been listed or proposed as an endangered or threatened species.
Biological Evaluation	A documented Forest Service review of Forest Service programs or activities in sufficient detail to determine how an action or proposed action may affect any species that has been listed or proposed as threatened, endangered, or sensitive.
Biological Opinion	An official report by the Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) issued in response to a formal Forest Service request for consultation or conference. It states whether an action is likely to result in jeopardy to a species or adverse modification of its critical habitat.
Board foot	A unit of timber measurement equaling the amount of wood contained in an unfinished board one inch thick, 12 inches long, and 12 inches wide.
Buffer	An area of undisturbed or lightly disturbed forest reserved to isolate activity areas from sensitive areas.
Carrying Capacity	The estimated maximum number of a wildlife species that can be sustained over the long term within a specified area. Carrying capacity is often used interchangeably with the term habitat capability.
Channel Type	A means of defining stream sections based on watershed runoff, landform relief, and geology. For descriptions, see "Channel Type Field Guide," Forest Service publication R10-MB-6.
Classified Road	A road wholly or partially within or adjacent to National Forest System lands that is determined to be needed for long-term motor vehicle access, including State roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service (36 CFR 212.1).
Clearcut	The harvesting in one cut of all merchantable trees on an area. It prepares the area for a new, even-aged stand. The area harvested may be a patch, strip, or stand large enough to be mapped or recorded as a separate age class in planning for sustained yield.
Climax Plant Community	A community of plants and animals that is relatively stable over time and which represents the late stages of succession under the current climate and soil conditions.
Colluvium	Soil and material produced by the disintegration and weathering of rocks, including cliff debris, material of avalanches, and alluvium. This material accumulates at the foot of a slope through the action of gravity.
Connectivity	A measure of the extent that forest areas between or outside habitat reserves provide wildlife habitat for breeding, feeding, dispersal, and movement.
Cubic Foot	A cube of wood with 1-foot sides. The cubic foot volume is a measure of the total sound wood in a tree and is a more accurate measure of wood volume than the board foot.
Culturally Modified Tree (CMT)	A tree over 50 years old that has been intentionally altered by indigenous people participating in the traditional use of the forest.

Cumulative Effects	The impacts on the environment resulting from the addition of the incremental impacts of past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions occurring over time.
Decommissioning	Activities that result in the stabilization and restoration of unneeded roads to a more natural state (36 CFR 212.1), (FSM 7703).
Deer Winter Habitat	Locations that provide food and shelter for Sitka Black-tailed deer under moderately severe to severe winter conditions. Usually associated with high volume old-growth stands at low elevation and with south aspects.
Desired Future Condition	A statement of the ultimate goal for resources and uses of an area.
Developed Recreation	Recreation that requires facilities that, in turn, result in concentrated use of an area, such as campgrounds and picnic areas. Facilities in these areas might include roads, parking lots, picnic tables, toilets, drinking water, and buildings. See also Dispersed recreation.
Diameter at Breast Height (DBH)	The diameter of a standing tree at a point four feet, six inches from ground level.
Direct Employment	The jobs that are immediately associated with a given activity.
Dispersed Recreation	Recreational activities that are not confined to a specific place and are generally outside developed recreation sites. This includes activities such as scenic driving, hiking, backpacking, hunting, fishing, snowmobiling, cross-country skiing, and recreation in primitive environments. See also Developed Recreation.
Distance Zone	Areas of landscapes visible from priority travel routes and use areas categorized by distance criteria. (Foreground: 0 to ¼- ½ mile, Middleground: ¼ - ½ to 3-5 miles, or Background: greater than 3-5 miles). Used as a frame of reference in which to discuss landscape characteristics and management activities.
Endangered Species	Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. Plant or animal species are identified by the Secretary of the Interior as endangered in accordance with the 1973 Endangered Species Act.
Endemic	Peculiar to a particular locality; indigenous.
Estuary	An ecological system at the mouth of a stream where fresh water and salt water mix, and where salt marshes and intertidal mudflats are present. The landward extent of an estuary is the limit of salt-intolerant vegetation, and the seaward extent is a stream's delta at mean low water.
Even-aged Management	Silvicultural methods that create stands of trees of essentially the same age. The difference in age between trees in forming the main canopy level of a stand usually does not exceed 20 percent of that age of the stand at harvest rotation age. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands.
Fluvial	Of, or pertaining to, streams and rivers.
Forbs	A category of herbaceous plants that are not included in the grass, shrub or tree categories; generally smaller flowering plants.

Glossary

Foreground	A term used to describe the stand of trees immediately adjacent to a scenic area, recreation facility or forest highway. The area is located less than ¼ mile from the viewer.
Forest Plan	Source of management direction for an individual Forest specifying activity and output levels for a period of 10-15 years. Management direction in the plan is based on issues identified at the time of the plan's development.
Forest Land	Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest use.
Forest-wide Standards and Guidelines	A set of rules and guidance that directs management activities and establishes the environmental quality, natural renewable and depletable resource requirements, conservation potential, and mitigation measures that apply to several land use designations.
Gap Phase Dynamics	When the death of one or a few overstory trees acts like a small minor disturbance and permits a small, single-even-aged stand to grow from existing vegetation or seed germination.
Geographic Information System (GIS)	A computerized map database that is used to store and evaluate site-specific information.
Habitat	The sum total of environmental conditions of a specific place that is occupied by an organism, population, or community of plants or animals.
Habitat Capability	Estimated maximum number of fish or wildlife that can be supported by the amount and distribution of suitable habitat in an area. Habitat capability is often used interchangeably with the term carrying capacity.
Habitat Suitability Index (HSI)	A measure of the capability of the habitat to support deer, based on a variety of environmental factors such as slope, elevation, aspect, and forest type.
Heritage Resources	The prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places. The term includes artifacts, records, and remains that are related to and located within such properties.
High Hazard Soil	A soil material prone to mass movement. Soil type, geologic bedding, and slope angle are factors considered when establishing which sites are high hazard.
Hydric Soils	Soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.
Indirect Employment	The jobs in service industries that are associated with or support a given activity.
Interdisciplinary Team (IDT)	A group of individuals with different training assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad to adequately solve the problem. Through interaction, participants bring different points of view and a broader range of expertise to bear on the problem or task.
Intermediate Stand Treatment	A stand management treatment that manipulates stand growth, composition, structure, or tree quality. Intermediate treatments include thinning, pruning, release, salvage, and sanitation cutting. These stand treatments do not attempt to obtain new tree regeneration. Some treatments such as salvage cutting or commercial thinning result in the harvest of forest products.

Inventoried Roadless Areas	National Forest System lands identified as undeveloped areas typically exceeding 5,000 acres that meet the minimum criteria for inclusion in the National Wilderness Preservation System. These areas were originally inventoried during the Forest Service Roadless Area Review and Evaluation (RARE and RARE II) processes.
Irretrievable Commitments	Loss of production or use of renewable natural resources for a period of time. The production or use lost is irretrievable, but not irreversible.
Irreversible Commitments	Decisions causing changes that cannot be reversed. Often applies to nonrenewable resources such as minerals and cultural resources.
Karst	A type of topography that develops in areas underlain by soluble rocks, primarily limestone. Dissolution of the subsurface strata results in areas of well-developed, surface drainage that are sinkholes, collapsed channels, or caves.
Land Use Designation (LUD)	A defined area of land, identified by the Forest Plan, to which specific management direction is applied.
Large Woody Debris (LWD)	Any large piece of relatively stable woody material having a least diameter of greater than 10 centimeters and length greater than one meter than intrudes into the stream channel.
Log Transfer Facility (LTF)	The site and structures which are used for moving logs and timber products from land-based transportation forms to water-based transportation forms.
Management Indicator Species (MIS)	Vertebrate or invertebrate wildlife species whose response to land management activities can be used to predict the likely response of other species with similar habitat requirements. The National Forest Management Act regulations prescribe the use of management indicator species.
Mass Movement	General term for a variety of processes by which large masses of soil and rock material are moved down slope by gravity either slowly or quickly. Mass movement is often used interchangeably with the term landslide.
Mass Movement Index (MMI)	Rating used to group soil map units that have similar properties with respect to the stability of natural slopes.
Middleground	The visible terrain beyond the foreground where individual trees are still visible but do not stand out distinctly from the landscape. The area is located from ¼ to 3-5 miles from the viewer.
Mitigation	Measure designed to counteract or reduce environmental impacts. These measures may include: avoiding an impact by not taking a certain action or part of an action; minimizing an impact by limiting the degree or magnitude of an action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or compensating for the impact by replacing or providing substitute resources or environments.
Monitoring	A process of collecting information to evaluate whether or not objectives of a project and its mitigation plan are being realized. Monitoring can occur at different levels: to confirm whether mitigation measures were carried out in the manner called for (Implementation Monitoring); to confirm whether mitigation measures were effective (Effectiveness Monitoring); or, to validate whether overall goals and objectives were appropriate (Validation Monitoring).

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Multiple Use	The management of all the various renewable surface resources of the National Forest System so that they are used in the combination that will best meet the needs of the American people; harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources.
Muskeg	A bog, often dominated by sphagnum moss, frequently with deep accumulations of organic material, occurring in wet, poorly drained northern regions. Peatland.
National Environmental Policy Act of 1969 (NEPA)	An act declaring a National policy to encourage productive harmony between humans and their environment, to promote efforts which will prevent or eliminate damage to the environment and the biosphere and stimulate the health and welfare of humans, to enrich the understanding of the ecological systems and natural resources important to the Nation and to a Council on Environmental Quality.
National Forest Management Act (NFMA)	A law passed in 1976 that amends the Forest and Rangeland Renewable Resources Planning Act, requires the preparation of Forest plans, requires the identification of management indicator species, and defines parameters for timber suitability.
National Forest System Road	A classified forest road under the jurisdiction of the Forest Service. The term "National Forest System road" is synonymous with the term "forest development road" as used in 23 U.S.C. 205.
National Register of Historic Places	A register of cultural resources of national, state, or local significance, maintained by the Department of the Interior.
Non-interchangeable Components (NICs)	Non-interchangeable components (NICs) are defined as increments of the suitable land base and their contribution to the allowable sale quantity (ASQ) that are established to meet Forest plan objectives. NICs are identified as parcels of land and the type of timber thereon which are differentiated for the purpose of Forest plan implementation. The total ASQ is derived from the sum of the timber volumes from all NICs. The NICs cannot be substituted for each other in the timber sale program.
Non-productive Forest Land	Forested land that does not support enough timber volume to meet the criteria for productive forest land.
Old-growth Forest	Ecosystems distinguished by old trees and related structural attributes. Old-growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics which may include larger tree size, higher accumulations of large dead woody material, multiple canopy layers, different species composition, and different ecosystem function. The structure and function of an old-growth ecosystem will be influenced by its stand size and landscape position and context.
Old-growth Habitat Reserve	A contiguous unit of old-growth forest habitat to be managed to maintain the integrity of the old-growth forest ecosystem.
Open Road Density	The length of forest development roads open for public access and use per unit area of land; usually expressed as miles of open road per square mile of land.
Overstory	The portion of trees in a forest that forms the uppermost layer of foliage. Canopy.
Palustrine	Non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity is below 0.50 percent.
Partial Harvest	Method of harvesting trees where any number of live trees are left standing in any of various spatial patterns.

Plant Association	Climax forest plant community type representing the endpoint of succession.
Pole Timber	An immature tree between 5 and 9 inches diameter breast height.
Precommercial Thinning	The practice of removing some of the trees of less than marketable size from a stand in order to achieve various management objectives.
Practicable	In reference to the Alaska Coastal Management Program, consistent with enforceable policies of approved management programs unless compliance is prohibited based upon the requirements of existing law applicable to the Federal agency's operations.
Present Net Value	The difference between benefits and costs associated with the alternatives.
Process Group	A combination of similar stream channel types based on major differences in landform, gradient, and channel shapes.
Productive Forest Land	Forest land that is capable of producing at least 20 cubic feet of annual tree growth per acre or contains at least 8,000 board feet of net timber volume per acre. This includes second-growth stands that have regenerated with conifer species after natural or human disturbance.
Productive Old-growth	Old-growth stands capable of producing 20 cubic feet per acre per year with 8,000 or more board feet of timber per acre.
Programmed Commercial Timber Harvest	Timber harvest that occurs on suitable forested lands that contributes to the Tongass National Forest Allowable Sale Quantity.
Recreation Opportunity Spectrum (ROS)	A system for planning and managing resources that categorizes recreation opportunities into seven classes. Each class is defined in terms of the degree to which it satisfies certain recreation experience needs based on the extent to which the natural environment has been modified, the type of facilities provided, the degree of outdoor skills needed to enjoy the area and the relative density of recreation use.
Recreation Places	Identified geographical areas having one or more physical characteristics that are particularly attractive to people in recreation activities. They may be beaches, streamsides or roadside areas, trail corridors, hunting areas or the immediate area surrounding a lake, cabin site, or campground.
Recreation Sites	A specific site and/or facility occurring within a Recreation Place. Some examples of Recreation Sites are: recreation cabins, trailheads, picnic areas, and wildlife viewing blinds.
Reserve Trees	Merchantable or submerchantable trees and snags that are left within the harvest unit to provide biological habitat components over the next management cycle.
Resident Fish	Fish that are not anadromous and that reside in fresh water on a permanent basis. Resident fish include cutthroat trout and arctic grayling.
Riparian Management Area	The area including water, land, and plants adjacent to perennial streams, lakes, and other bodies of water that is managed for the inherent qualities of the riparian ecosystem.
Road Management Objective (RMO)	Defines the intended purpose of an individual road based on Management Area direction and access management objectives. Road management objectives contain design criteria, operation criteria and maintenance criteria. Long-term and short-term roads have RMOs.

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Roadless Area Inventory	A list of areas that meet the minimum criteria for potential inclusion in the National Wilderness Preservation System. This type of inventory is compiled at the Forest level.
Rotation	The planned number of years between the time that a Forest stand is regenerated and its next cutting at a specified stage of maturity.
Sawtimber	Trees that are suitable in size and quality for the production of dimensional lumber.
Scoping Process	Early and open activities used to determine the scope and significance of a proposed action, what level of analysis is required, what data is needed, and what level of public participation is appropriate. Scoping focuses on the issues surrounding the proposed action and the range of actions, alternatives, and impacts to be considered in an EA or EIS.
Second Growth	Forest growth that has come up naturally or has been planted after disturbance (for example, harvest, serious fire, or insect attack).
Seen Landscape	Those areas visible from the most frequently used travelways (boat route, recreation road, or trail) or use area (recreation cabin or anchorage).
Seldom-seen Landscape	Those areas not visible from the most frequently used travelways (boat route, recreation road, or trail) or use area (recreation cabin or anchorage).
Sensitive Species	Animal and plant species identified by the Regional Forester as potentially susceptible or vulnerable to activity impacts or habitat alterations and, therefore, in need of special considerations during land management activity planning.
Side-slope Break	The abrupt change (usually decreases) in slope gradient defining the upper limit of stream channel incision.
Silviculture	The theory and practice of managing forest vegetation. Silviculture involves the appropriate application of ecological, social, and economic principles of vegetative management to achieve resource management objectives and desired future forest conditions.
Silvicultural Prescription	Detailed direction about methods, techniques, timing, and monitoring of vegetative treatments. A prescription is prepared by a silviculturist who uses interdisciplinary input to best achieve established objectives, direction, and requirements for land managed by the Forest Service.
Silvicultural System	A management process whereby forests are tended, harvested, and replaced resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the process.
Site Index	A measure of the relative productive capacity of an area for growing wood. Measurement of site index is based on height of the dominant trees in a stand at a given age.
Site Potential Tree Height	The average height of a given species of tree when mature on a given site.
Soil Productivity	Capacity of soil to produce plant growth due to the soil's chemical, physical, and biological properties.
Sortyard	A location used to sort grades, types, and size of logs.

Special Interest Area	A designation for an area possessing unique or unusual scenic, historic, prehistoric, scientific, or other characteristics.
Stand	A group of trees occupying a specific area and sufficiently uniform in composition, age arrangement, and condition as to be distinguishable from the forest in adjoining areas.
State Selection	Application by Alaska Department of Natural Resources to the Bureau of Land Management for conveyance of a portion of the 400,000-acre State entitlement from vacant and unappropriated National Forest System lands in Alaska under the Alaska Statehood Act.
Stream Class	<p>A means to categorize stream channels based on their fish production values. Also known as Aquatic Habitat Management Unit (AHMU) Class. There are four stream classes defined by the Forest Plan. They are:</p> <p><i>Class I.</i> Streams and lakes with anadromous or adfluvial fish habitat; or high quality resident fish waters listed in Appendix 68.1, Region 10 Aquatic Habitat Management Handbook (FSH 2609.24), June 1986; or habitat above fish migration barriers known to be reasonable enhancement opportunities for anadromous fish.</p> <p><i>Class II.</i> Streams and lakes with resident fish populations and generally steep (6-15 percent) gradient (can also include streams from 0-5 percent gradient) where no anadromous fish occur, and otherwise not meeting Class I criteria. These populations have limited fisheries values and generally occur upstream of migration barriers or have other habitat features that preclude anadromous fish use.</p> <p><i>Class III.</i> Perennial and intermittent streams with no fish populations but which have sufficient flow or transport sediment and debris to have an immediate influence on downstream water quality or fish habitat capability. These streams generally have bankfull widths greater than five feet and are highly incised into the surrounding hillslope.</p> <p><i>Class IV.</i> Intermittent, ephemeral, and small perennial channels with insufficient flow or sediment transport capabilities to have an immediate influence on downstream water quality or fish habitat capability. These streams generally are shallowly incised into the surrounding hillslope.</p>
Structural Diversity	The diversity of forest structure, both vertically and horizontally, which provides for variety of forest habitats such as logs and multi-layered forest canopy for plants and animals.
Stumpage	The value of timber as it stands uncut in terms of dollar value per thousand board feet.
Subspecies	An aggregate of similar populations of a species generally inhabiting a geographic subdivision of the range of the species and differing taxonomically (e.g. different size or color) from other populations of the species.
Succession	The ecological progression of plant community change over time, characterized by displacements of species leading to a relatively stable climax community.
Sustained Yield	The amount of renewable resources that can be produced continuously at a given intensity of management.
Temporary Road	Road authorized by contract, permit, lease, other written authorization, or emergency operation, not intended to be a part of the forest transportation system and not necessary for long-term resource management (36 CFR 212.1). These roads are to be built to access one or more timber harvest units and decommissioned after use.

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Tentatively Suitable Forest Land	Forest land that is producing or is capable of producing crops of industrial wood and: a) has not been withdrawn by Congress, the Secretary of Agriculture, or the Chief of the Forest Service; b) existing technology and knowledge is available to ensure timber production without irreversible damage to soils productivity, or watershed conditions; c) existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that it is possible to restock adequately within five years after final harvest; and d) adequate information is available to project responses to timber management activities.
Threatened Species	Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and which has been designated in the Federal Register by the Secretary of the Interior as a threatened species.
Tiering	Elimination of repetitive discussions of the same issue by incorporating by reference the general discussion in an environmental impact statement of broader scope. For example, this EIS is tiered to the Forest Plan EIS.
Timber Appraisal	Establishing the fair market value of timber by taking the selling value minus manufacturing cost, the cost of getting logs from the stump to the manufacturer, and an allowance for profit and risk.
Tongass Resource Use Cooperative Survey (TRUCS)	A study done to gather information on subsistence uses of the Forest.
Tongass Timber Reform Act (TTRA)	This act (1990) requires annual appropriations for timber management on the Tongass National Forest, with a provision providing for the multiple use and sustained yield of all renewable forest resources.
Two-aged Management	A silvicultural method in which the majority of the trees in a harvest unit are cut in one entry, and the rest (about 20-30 percent of the unit) are left as residual trees, either singly or in patches. The residual trees remain unharvested to provide structural diversity and older-aged trees within the second-growth stand.
Unclassified Road	A road on National Forest System lands that is not managed as part of the forest transportation system, such as an unplanned road, abandoned travelway, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization (36 CFR 212.1).
Understory Vegetation	Grass, small trees, shrubs, and other plants found beneath the overstory (the trees comprising the forest).
Uneven-aged Management	The actions needed to maintain high-forest cover, recurring regeneration of desirable species, and development of trees through a range of diameter or age classes. Single-tree selection and group selection cutting methods that develop and maintain uneven-aged stands are .
Utility Volume	Logs that do not meet minimum requirements for sawtimber but are suitable for other commercial uses.
V-notch	A deeply cut valley along some waterways, generally in steep, mountainous terrain, that would look like a "V" from a frontal view.

Value Comparison Unit (VCU)	A distinct geographic area that generally encompasses a drainage basin containing one or more large stream systems. Boundaries usually follow easily recognizable watershed divides. These units were established in the Forest Plan to provide a common set of areas for which resource inventories could be conducted and resource value interpretations made.
Viable Population	For forest planning purposes a fish or wildlife population which has the estimated number and distribution of reproductive individuals to ensure its continued existence is well distributed in the National Forest.
Viewshed	A distinct area of land visible from identified travelways (boat route, recreation road, or trail) or use areas (recreation cabin or anchorage).
Visual Absorption Capacity (VAC)	An estimate of the relative ability of a landscape to absorb alteration yet retain its visual integrity.
Visual Quality Objective (VQO)	<p>A desired level of scenic quality and diversity of natural features based on physical and sociological characteristics of an area. Refers to the degree of acceptable alterations of the characteristic landscape.</p> <p><i>Adopted VQO.</i> The VQO to be achieved as a result of management direction identified in the approved Forest Plan. Adopted VQOs represent the visual resource objective for the Forest Land Management Plan period, normally 10 years. (FSH 2309.22, R-10 Landscape Management Handbook.)</p>
Volume Class	Term used to describe the average volume of timber per acre in thousands of board feet (MBF).
Volume Strata	Divisions of old-growth timber volume derived from the aerial photo interpreted timber type data (TIMTYP) and the soils data (CLU). Three volume strata (low, medium, and high) are recognized in the Forest Plan.
Watershed	That area that contributes water to a drainage or stream; portion of a forest in which all surface water drains to a common point. Can range from a few tens of acres that drain a single small intermittent stream to many thousands of acres for a stream that drains hundreds of connected intermittent and perennial streams.
Wetlands	Areas that are inundated by surface or ground water with a frequency sufficient, under normal circumstances, to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include muskegs, marshes, bogs, sloughs, potholes, river overflows, mud flats, wet meadows, seeps, and springs.
Wild and Scenic River	Rivers or sections of rivers designated by congressional action under the 1968 Wild and Scenic Rivers Act or by an act of the Legislature of the state or states through which they flow.
Wilderness	Areas designated under the 1964 Wilderness Act. Wilderness is defined as undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions. In Alaska, wilderness also has been designated by TTRA and ANILCA.
Wildlife Analysis Area (WAA)	A division of land used by the Alaska Department of Fish and Game for wildlife analysis.

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Windfirm	Configuration of harvest units so as not to create an opening that exposes the adjacent stand of timber to the direction of the major prevailing storm wind (southeast).
Windthrow (Blowdown)	The act of trees being uprooted, blown down, or broken off by storm winds. Three types of windthrow include: endemic where individual trees are blown over, catastrophic where a major windstorm can destroy hundreds of acres, and management related where the clearing of trees in an area makes the adjacent standing trees vulnerable to windthrow.
Winter Range	An area, usually at lower elevations, used by big game during the winter months; usually smaller and better defined than summer ranges.
Yarding	Hauling timber from the stump to a collection point.

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 Alaska Department of Fish and Game, Division of Subsistence
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Appendix A

Reasons for Scheduling the Environmental Analysis of the Woodpecker Project Area Timber Harvest

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Appendix A

Reasons for Scheduling the Environmental Analysis of the Woodpecker Project Area

Introduction

This Appendix provides a detailed explanation of the rationale for a specific timber sale project and its importance to the multi-year timber program on the Tongass National Forest. To accomplish this, the following questions are answered:

- Why is timber from the Tongass National Forest being offered for sale?
- What steps must be completed to prepare a sale for offer?
- How does the Forest Service develop expectations about the market demand for timber?
- How does the Forest Service maintain an orderly and predictable timber sale program?
- How does the Forest Service decide where timber sale projects should be located?
- How does this project fit into the Tongass timber program?
- Why can't this project be located somewhere else?

Coordinated timber sale planning is essential for meeting the goals of the Tongass Land Management Plan and to provide an orderly flow of timber to local industry. To determine the volume of timber to offer each year, the Forest Service can look to current market conditions and the level of industry operations. However, the lengthy planning process, of which this document is a part, requires the Forest Service to rely on projections of future harvest levels to decide how many timber sale projects to begin each year. This document explains how the Forest Service uses information about future markets and past experience with

the logistics of timber sale planning to determine the volume of timber that needs to be started through this process each year. Using a detailed timber sale schedule that provides information about each sale as it moves through each stage of the planning process, this Appendix explains the rationale and the necessity for completing this particular timber sale project at this point in time.

Why is Timber from the Tongass National Forest Being Offered for Sale?

National Legislation

On a national level, the legislative record is very clear about the role of the timber program in the multiple-use mandate of the National Forests. The Organic Act of 1897, 16 USC 473-481 (partially repealed in 1976) directed the agency to manage the forests in order to "improve and protect the forest ... [and] for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of the citizens of the United States" (emphasis added.) The Multiple-Use Sustained Yield Act of 1960, 16 U.S.C. 528-531, directs the Forest Service to administer federal lands for "outdoor recreation, range, timber, watershed, and wildlife and fish purposes."

The National Forest Management Act of 1976 (16 U.S.C. 472a) states that "the Secretary of Agriculture...[may sell, at not less than appraised value, trees, portions of trees, or forest products located on National Forest System Lands.]" Although the heart of the Act is land management planning, the Act also sets policy direction for timber management and public participation in Forest Service decision-making. Under NFMA, the Forest Service was directed to "limit the sale of timber from each national forest to a quantity equal to or less than a quantity which can be removed from such forest annually in perpetuity on a sustained-yield basis" (16 U.S.C. 1611).

The NFMA directed the Forest Service to complete land management plans for all units of the National Forest System. Forest Plans were to be developed by an interdisciplinary team to provide for the coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness. The 1979 *Tongass National Forest Land and Resource Management Plan* was the first Forest Plan to be completed. A revised Forest Plan was issued in 1997 and modified in 1999. Subsequently, Alaska Federal Court Judge James K. Singleton vacated the 1999 TLMP ROD in a March 30, 2001 court decision. With regard to timber production, the Record of Decision for the 1997 Plan states:

"The Tongass National Forest will continue timber harvest consistent with sustained yield and multiple use goals... Although the maximum amount of timber that could be harvested during the first decade of the Revised Plan implementation is an average of 267 MMBF per year, a level

of 200 MMBF or less is more likely to be offered over the next few years, given current market conditions and the transition that both the timber industry and the Forest Service is experiencing. Therefore the public can expect the amount of timber to be offered annually to vary between 200 MMBF or less and 267 MMBF.

...The timber resource will be managed for production of sawtimber and other wood products from timberlands available for sustainable timber harvest, on an even-flow, sustained-yield basis and in an economically efficient manner. We will seek to provide a timber supply sufficient to meet the annual market demand for Tongass National Forest timber and the market demand for the planning cycle...

The Tongass National Forest will continue to allow timber harvest while maintaining sustained yield and multiple use goals. The forest-wide standards and guidelines for timber include general direction to "[e]nsure that silvicultural systems other than clearcutting are considered through an appropriate project level analysis process. However, uneven-aged management systems will be limited to areas where yarding equipment suited to selective logging can be used..."

Forest-wide, considering all land allocations where timber harvest is permitted, it is estimated that 65 percent of harvesting will involve clearcutting, with the remaining 35 percent utilizing other methods.

In the day-to-day operation of the Tongass timber program, the Forest Service attempts to strike a balance among timber availability as documented in the Forest Plan, the market demand for timber in Southeast Alaska, the needs and desires of other forest users, and funding allocations made by Congress.

Alaska-Specific Legislation

Legislation unique to Alaska also directs the Forest Service to maintain a commercial timber program. The Alaska National Interest Lands Conservation Act (ANILCA; P.L. 96-487, 1980) and the Tongass Timber Reform Act (TTRA; P.L. 101-625, 1990) speak directly to the issue of Tongass timber supply. Section 705(a) of ANILCA directed the Forest Service to maintain a timber supply from the Tongass at a rate of 4.5 billion board feet per decade. To ensure that the timber target was met, Congress provided for a \$40 million annual earmark to fund pre-roading, cultural treatments and innovated logging systems.

Section 101 of TTRA repealed the timber supply mandate and fixed appropriations of ANILCA and replaced them with the following more general direction:

Sec. 705 (a), Subject to appropriations, other applicable law, and the requirements of the National Forest Management Act (P.L. 94-588); except as provided in subsection 9d) of this section, the Secretary shall, to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the annual market demand from such forest for each planning cycle.

Timber from the Tongass National Forest is being offered as part of the multiple use mission of the Forest Service as identified in public laws. Alaska-specific legislation and the Forest Plan directs the Forest Service to seek to provide timber to meet market demand subject to appropriations and balancing of forest uses.

What Steps Must Be Completed to Prepare a Sale for Offer?

The timber sale program is complex. A number of projects are underway at any given point in time, each of which may be in a different stage of planning and preparation. A system of checkpoints, or "gates," helps the Forest Service track the significant milestones of each project from inception to contract termination. Each project passes through all of the following gates, with the complexity of the sale determining the complexity of the final product at each stage.

Gate 1 - Completion of Position Statement

The Position Statement is a brief analysis of the project area with the intent of determining the feasibility of the potential timber sale. This is the first step in the timber sale planning process and it is usually completed from seven to ten years before a sale is offered. After the Position Statement is developed, the Forest Service decides whether to continue to the next phase of the project where a significant investment in time and money will be made.

Gate 2 – Sale Area Design, Environmental Documentation, and Decision

This phase of the project is commonly referred to as the "NEPA" phase and includes inventory, public scoping, analysis, draft disclosure of the effects of the project on the environment, public comment, final analysis and disclosure, decision, potential appeal, and litigation. Gate 2 activities are generally completed two to six years before a sale is offered. The end product of this phase, an environmental decision document, forms the starting point for the next phase.

Gate 3 – Plan Implementation and Field Layout

Gate 3 activities are typically completed one to three years before a sale is offered. During this phase, the information and direction included in the decision document (Gate 2) is used to designate the actual project on the ground. Additional site-specific information is collected at this time.

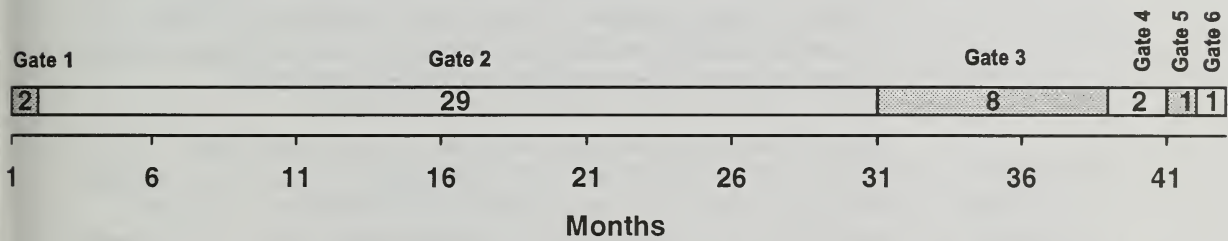
Gate 4 – Appraisal Offering Package The costs and value associated with the timber sale designed in Gate 3 are computed and packaged in a timber sale contract. The contract tells the prospective timber sale purchaser how the sale must be harvested to be in conformance to the project decision document. This phase of the Gate system occurs during the final year of the project development and culminates with the advertisement of the project for sale.

Gate 5 – Bid Opening Gate 5 is completed with the opening of bids for the project. If a bid is submitted, contractual provisions govern when the award of the sale takes place and when the sale will be completed and how timber removal is to occur.

Gate 6 – Award Gate 6 is the formal designation of a contract between a bidder and the Forest Service.

Figure A-1. Gate System Timeline

Average Timeline for the Gate System through Award *



Gate 1 – Completion of Position Statement
 Gate 2 – Sale Area Design, Environmental Documentation and Decision
 Gate 3 – Plan Implementation and Field Layout

Gate 4 – Appraisal Offering Package
 Gate 5 – Bid Opening
 Gate 6 – Award

* After a Sale is awarded, it is under contract from one to three years depending on sale size.

* Source: Geneen Granger, Alaska Regional Office unpublished data, Average time for Gate 2 EIS documents.

How does the Forest Service Develop Expectations about Future Timber Markets?

The Tongass National Forest makes two determinations on volume to be offered. The first is a determination on volume to be offered for the current year (annual market demand). The annual market demand is analogous to assessing industry performance in the short-term. In the short-run a firm will make use of its existing equipment to maximize profits or minimize losses. The general approach is to consider the timber requirements of the region's sawmills at different levels of operation and under different assumptions about market conditions and technical processing capability. These assumptions provide a basis for estimating the volume of timber likely to be processed by the industry as a whole in any given year. Timber inventory requirements are acknowledged and estimated in a related calculation. The volume of timber likely to be purchased is equal to the volume needed to make up any inventory shortfall in addition to the volume likely to be harvested in the coming year. The document titled *Evaluating the Demand for Tongass Timber* (USDA, Forest Service, R-10; Morse; September 28, 1998) forms the basis for how these estimates were developed. The document titled *Tongass National Forest Timber Sale Procedures* (USDA, Forest Service, R-10; Morse, October 2000) documents actual estimates for the current year. This estimate is what the Tongass plans to offer for the current year of the Ten Year Timber Sale Schedule pending sufficient funding to do so. Final procedures can be located in the document titled: *Responding to the Market Demand for Tongass Timber* (USDA, Forest Service, R-10-MB-413, Morse, April 2000).

Based on the analysis documented in the *Tongass Timber Sale Procedures*, for Fiscal Year 2001, the Tongass National Forest offering required to meet timber supply objectives is 203 MMBF. The offer planned will be a combination of new, previously offered, or previously offered and reconfigured timber sales. Both standing timber and salvage will be components of the program. Offerings will consist of those targeted for Small Business qualified firms as well as a portion of the volume being made available for the open market.

Life of the Forest Plan (Market Demand over the Planning Cycle)

Given the long time involved in preparing a timber sale, the proposed timber sales in this document may not be harvested for 3 to 4 years or longer, not including appeals or litigation. The Forest Service needs some idea of what the long-term timber demand will be given cycles in the market. On average, what should the Forest Service plan for offer, given that timber from this NEPA document may not be harvested for 4 years into the future? The Forest Service needs to take a long-term view for planning purposes. To answer these questions, the Forest Service asked the Pacific Northwest Research Station for professional assistance.

As the Tongass Land Management Plan was being revised in 1997, research economists at the Pacific Northwest Research Station (PNW) were asked to update their earlier projections of Alaska timber products output and timber harvest by ownership. The most recent projections of timber harvest over the planning cycle account for several dramatic changes in the region's manufacturing capabilities, increased competition from a number of sources, and the steady erosion of North America's share of Japanese timber markets.

The Forest Service documents these projections and the means of implementation through the issuance of a Ten Year Timber Sale Schedule. Each year this plan is updated whereby the current year is dropped at the culmination of the fiscal year and a new year ten is added. The basis for this schedule is long-range timber market projections documented in the publication titled *Timber Products Output and Timber Harvest in Alaska: Projections for FY97-10* (Brooks and Haynes; PNW-GTR-409, September, 1997). These projections of Alaska timber products output, the derived demand for raw material, and timber harvest by owner are developed from a trend-based analysis. These projections reflect the consequences of recent changes in the Alaska forest sector and long-term trends in markets for Alaska products. With the closure of the two Southeast Alaska pulp mills, demand for Alaska National Forest timber now depends on markets for sawn wood and the ability to export manufacturing residues and lower grade logs. Three alternative projections are used to display a range of possible future demand (Table A-1). Areas of uncertainty include the prospect of continuing changes in markets and in conditions faced by competitors and the speed and magnitude in investment in manufacturing in Alaska.

Demand projections are important for program planning. They provide important guidance to the Forest Service for requesting budgets, for making decisions about workforce and facilities, and for indicating the need to begin new NEPA analysis for future program offerings. They also provide a basis for expectations regarding future harvest, and thus provide an important source of information for establishing the schedule of probable future sale offerings. The weight given to the projections will vary depending on a number of factors, such as how recently they were done, and how well they appear to have accounted for recent, site-specific events in the timber market.

Table A-1. Projected Tongass National Forest Harvest¹

Fiscal Year	Projected Harvest (MMBF)			Actual
	Low	Med.	High	
1998	77.3	86.0	112.2	119.8
1999	86.4	99.3	127.9	145.8
2000	95.5	115.9	142.7	146.8
2001	104.6	129.0	157.7	
2002	113.7	134.9	173.1	
2003	122.8	140.8	188.9	
2004	131.9	146.5	205.0	
2005	131.9	152.2	221.4	
2006	131.9	157.8	238.2	
2007	132.0	163.4	255.3	
2008	132.0	168.9	272.8	
2009	132.1	174.3	290.7	
Avg.	112.8	132.6	182.2	137.5
Mean	168.7			

¹ For Fiscal Years 2001-2009, the Tongass National Forest plans to schedule approximately 160 MMBF for sale each year over the life of the Forest Plan. This schedule is based on the projections documented in *Timber Products Output and Timber Harvest in Alaska: Projections for FY97-10* (Brooks and Haynes; PNW-GTR-409, September, 1997), and current volumes in the timber sale pipeline process. Prior to the beginning of Fiscal Year 2002 the amount of volume scheduled in outyears will once again be analyzed to determine if projections made now meet the anticipated needs in the future.

How does the Forest Service Maintain an Orderly and Predictable Timber Sale Program?

Pools of Timber (Pipeline Volume)

As discussed earlier, the Forest Service tracks accomplishment of various stages of development of each timber sale with the Gate System process. From a timber sale program standpoint, it is also necessary to track and manage multiple projects through time as projects collectively move through the Gate System. Tracking of the multiple projects can be likened to following various segments of several projects through a pipeline of time. Because of the relatively long timeframes needed to accomplish a given timber sale and the complexities inherent in timber sale project and program development, it is necessary to track various timber sale program volumes from Gate 1 through Gate 6. Gate 1 volume represents a large pool of program volume, but represents a relatively low investment from project to project. This relative investment level offers the timber program manager a higher degree of flexibility and thus, does not greatly influence the flow of volume

through the pipeline. In addition, tracking of how much volume near the end of the pipeline that is in appeals or litigation may be necessary to determine potential effects on the flow of potential timber sales.

The goal of the Tongass National Forest is to provide an even flow of timber sale offerings on a sustained yield basis. In past years, this has been difficult to accomplish due to continual reductions in the suitable timber land base, reductions in the timber industry processing capabilities, rapid market fluctuations and Forest Plan modifications and litigation. To achieve an even flow of timber sale offerings, 'pools' of projects in various stages of the Gate System will be maintained so volume offered can be balanced against current year demand and market cycle projections. Today, upward trends in demand are reacted to by moving outyear timber projects forward leaving outyears not capable of meeting the needs of the industry. In other instances, a number of new projects are started based on today's market but not available for a number of years. By the time the added projects are ready for offer, the market and demand for this volume has changed. Three pools are being tracked to achieve an even flow of timber sale offerings:

- **Timber volume under analysis (Gate 2):** Timber volume under analysis contains sales being analyzed and undergoing public comment through the NEPA process. This process can often take from one to five years and reaches a significant milestone when a NEPA decision is made. This pool includes any project with a formal Notice of Intent through those with a decision document issued. Volume in appeals and litigation will be tracked as a subset of this pool as necessary.
- **Timber volume available for sale (Gate 3, Gate 4 and Gate 5):** Timber volume available for sale contains sales for which environmental analysis has been completed, and administrative appeals, and litigation (if any) have been resolved. They have also been fully prepared, and are available to managers to schedule for sale offerings. Managers need to maintain enough volume in this pool to be able to schedule future sale offerings in an orderly manner of the size and configuration that best meets the need of the public. As a matter of policy, and sound business practice, the Forest Service attempts to announce probable future sale offerings at least one year in advance. This allows potential purchasers an opportunity to do their own evaluations of these offerings in order to determine whether to bid, and if so, at what level.
- **Timber volume under contract (Gate 6):** Timber volume under contract contains sales that have been sold and a contract awarded to a purchaser, but has not yet been fully harvested. Timber contracts typically, but not always, give the purchaser three years to harvest and remove the timber purchased. Long standing Forest Service

practice is to attempt to maintain about two to three years of unharvested timber volume under contract to timber purchasers. This volume of timber is the industry's dependable timber supply, which allows immediate flexibility in business decisions. This practice is not limited to the Alaska Region, but is particularly pertinent to Alaska because of the nature of the land base. The relative absence of roads, the island geography, the steep terrain, and the consequent isolation of much of the timber land means that timber purchasers need longer-than-average lead times to plan operations, stage equipment, set up camps, and construct roads prior to beginning harvest.

What drives the various timber sale program pipeline pool volume is a combination of actual harvest and projected demand. As purchasers harvest timber, they deplete the volume under contract. Managers track harvest, and offer sales that give the industry as a whole the opportunity to replace this volume and build or maintain their working inventory. Although there can be significant variation for practical reasons from year to year, in the long-run, over both the high points and low points of the market cycle, timber harvest will equal timber sales.

The Forest Service, based on historical patterns, determines the amount of pipeline volume in each of the pools. Table A-2 displays volume levels that are expected to be maintained in each pool.

- Pool 1, Timber Volume Under Analysis, is expected to be maintained at approximately 4.5 times the amount of anticipated harvest.
- Pool 2, Timber Volume Available for Sale, is expected to be maintained at approximately 1.3 times the amount of anticipated harvest.
- Pool 3, Volume Under Contract, is expected to be maintained at approximately 3 times the amount of anticipated harvest.

The objective of the pools concept is to maintain sufficient volume in preparation and under contract to be able to respond to yearly fluctuations in a timely manner.

Table A-2. Pipeline Pool Matrix

Pipeline Pool Volume	Flows	Start of Year One	During Year One	End of Year One
1. Volume Under Analysis ¹ (Gate 2) (MMBF)		354 ²	435	341
	NEPA Decision	135 ³	392	202
2. Volume Available for Sale ⁴ (Gate 3, Gate 4 and Gate 5) (MMBF)		128 ³	307	179
	Offered		190	
	Sold		161 ⁵	
3. Volume Under Contract ⁶ (Gate 6) (MMBF)		335 ⁷		387 ⁸
	Volume Harvested*		129 ⁹	

Matrix crosswalk between Gate Tracking System and Pools of Timber Concept:

¹ Gate 2: Proposed timber volume with a published decision document (Record of Decision) that is viable for sale after completion of appeals and litigation.

² Actual figure from Tongass National Forest Schedule of Proposed Actions.

³ Actual figure.

⁴ NEPA cleared timber volume: Gate 3, field preparation work; Gate 4, timber sale contract package preparation; Gate 5, Timber Sale bid opening.

⁵ Tongass National Forest Timber Sale Procedures, Morse, October 2000, Table page 4.

⁶ Gate 6: Timber sale award and contract execution.

⁷ Volume under contract as of October 2000.

⁸ Three times the amount of volume projected in the medium market scenario given in Timber Output and Timber Harvests in Alaska: Projection for 1997 – 2010, Gen. Tech. Report. PNW-GTR-409, Portland, Oregon, USDA Forest Service, PNW Research Station.

⁹ Projected harvest for FY 2001, see table A-1, page 8 of this Appendix.

*Note-The amount of volume estimated to be harvested for the year sets the basis for what will be maintained in Pools 1-3 (**Gates 2 through 6**). Should this estimate be incorrect, adjustments can be made in the following years without significant departures in outyear program capabilities.

Table A-3. Timber Volume in Appeals and/or Litigation

Timber volume in appeals and/or enjoined in litigation *	23.8 Million Board Feet
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*As of 01/01/01. The volume in appeals, remanded and/or enjoined in litigation is updated on a quarterly basis.

How Does the Forest Service Decide Where Timber Sale Projects Should be Located?

The Allowable Sale Quantity (ASQ)

The 1997 Forest Plan Record of Decision established an ASQ for timber at 2.67 billion board feet per decade, which equates to an annual average of 267 million board feet (MMBF). The ASQ serves as an upper limit on the amount of timber that may be offered for sale as part of the regularly scheduled timber sale program. It consists of two separate Non-Interchangeable Components (NICs) called NIC I, which is 2.2 billion board feet of timber per decade, and NIC II, which is .47 billion board feet per decade. There are two purposes of partitioning the ASQ into two components:

- 1) to maintain the economic sustainability of the timber resource by preventing the over-harvest of the best operable ground and
- 2) to identify that portion of the timber supply that is at risk of attainment because of marginal economic conditions.

The NIC I component includes lands that can be harvested with normal logging systems. The NIC II component includes land that has high logging costs due to isolation or special equipment requirements. Most of these NIC II lands are presently considered economically and technically marginal.

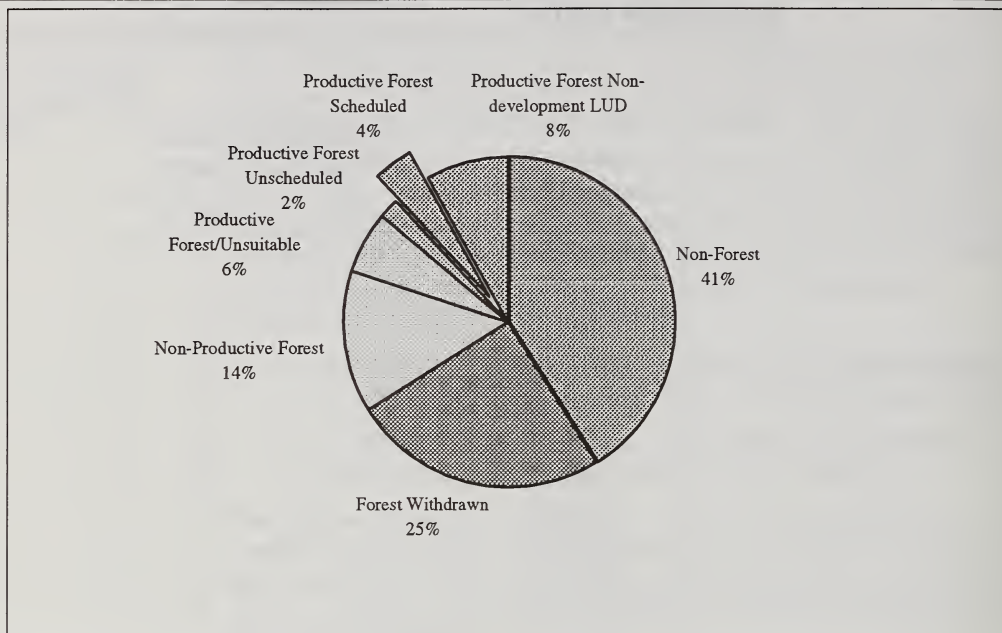
The Tongass National Forest has been unified under one Forest Supervisor. For planning and scheduling purposes, the allowable sale quantity is distributed by Ranger District. Each District has been allocated a portion of the timber harvest program based on the FORPLAN computer run and availability of suitable and available acres, to implement the Forest Plan, and Section 101 of the Tongass Timber Reform Act (1990). The Forest Plan set the Forest-wide allowable sale quantity (ASQ) upper limit at 267 MMBF per year. The distribution of the planned ASQ harvest among the Districts is listed in Table A-4 (all volumes are identified as sawlog plus utility).

Historically, timber harvest has been spread across the Tongass National Forest with the long-term timber sales and mills located in Sitka and Ketchikan. The suitable timber land base is spread across the Forest as displayed in the above table. In answer to the question presented for this section of the Appendix, the suitable timber base is capable of producing the ASQ documented in the 1997 Forest Plan Record of Decision.

Table A-4. Distribution of ASQ Among the Tongass National Forest Ranger Districts

Tongass NF Ranger District	Non-Interchangeable Components (mmbf)	
	NIC I	NIC II
Ketchikan	32	7
Thorne Bay	42	9
Craig	33	7
Wrangell	28	6
Petersburg	50	9
Sitka	17	4
Hoonah	7	2
Juneau	7	2
Yakutat	4	1
Admiralty	0	0
NIC Totals	220	47
ASQ Total (mmbf)	267	

Figure A-2. 1997 Forest Plan Land Suitability



This chart depicts the productive suitable forest land base that is scheduled for timber harvest activities. Four percent of the Tongass land base generates the allowable sale quantity of 267 MMBF per year. The remainder of the land, approximately ninety-six percent, is not scheduled for timber harvest.

Non-Forest – Land that has never supported forests or developed land for crops, communities etc.

Forest Withdrawn – Forested lands designated by Congress, the Sec. of Agriculture, or Chief for purposes that preclude timber harvest are classified as unsuitable, such as designated Wilderness. (Does not include Non-forest land that has been withdrawn.

Non-productive Forest – Forest land not capable of producing crops of wood.

Productive Forest, Non-development LUD – Productive forest lands that are not suited for timber production due to Forest Plan land use designation.

Productive Forest, Unsuitable – Forest land unsuitable for timber due to physical attributes (steep slopes) and/or inadequate information to insure restocking trees (soils).

Productive Forest, Scheduled – Forest land scheduled over the rotation available for timber harvest.

Productive Forest, Unscheduled – Forest land that meets all the criteria for timber production availability but not scheduled for harvest over the rotation.

District-Level Planning

The Forest Supervisor for the Tongass National Forest has discrete responsibilities for the overall management of the Forest's timber sale program. Included within these responsibilities is making the determination on the amount of timber volume to be made available to industry, as described above. Once a determination is made for the current year (annual demand) offer level, the information is presented to Congress via the Regional Forester and Chief of the Forest Service. Whether or not funding is appropriated to attain the program is the responsibility of the Congress and the President of the United States. While the debate on funding takes place, the Tongass Forest

Supervisor directs the District Rangers to formulate timber sale schedules that attain the prescribed offer level for the current year as well as develop outyear timber programs based on projected market demand for the planning cycle. It is the Ranger's role to recommend to the Forest Supervisor timber sale projects that meet Forest Plan goals and objectives. Districts work on various projects simultaneously resulting in continual movement of projects through the stages of the timber program pipeline. Their schedule allows the necessary time to complete preliminary analysis, resource inventories, environmental documentation, field layout preparations and permit acquisition, appraisal of timber resource values, advertisement of sale characteristics for potential bidders, bid opening, and physical award of the timber sale. Once all of the Rangers' recommendations are made and compiled into a consolidated schedule, the Forest Supervisor is responsible for the review and approval of the final plan.

Pending Congressional appropriations, the sale schedule is implemented. In the event insufficient funds are appropriated to achieve the desired outputs, timber sale projects are selected and implemented on a priority basis. Generally, the higher priority projects include sales where investments such as road networks, camps or log transfer facilities have already been established. Those sales that are not implemented or only partially implemented are moved to the outyears. The sale schedule becomes very dynamic in nature due to the number of influences on each of the districts. A formal review of the schedule is done annually by the Forest Supervisor in consultation with the District Rangers, and amendments are made as needed through the course of the year. (The Tongass Timber Sale Plan is located on the Tongass National Forest Website, www.fs.fed.us/r10/tongass/)

The National Forest Management Act requires the Forest Service to develop timber sale schedules that encompass the life of the Forest Plan. The recent Tongass National Forest planning process culminated in issuance of the *Forest Plan Record of Decision for the Tongass Land and Resource Management Plan*. In response to this Plan, the Tongass has prepared a Ten Year Timber Sale Schedule for Fiscal Years 2001-2010. The Fiscal Year 2001 offer level is based on annual market demand estimates. The remaining years, 2001-2010, are based on market demand projections over the planning cycle. Table A-5 denotes the first year of the ten-year plan. Fiscal Year 2001 is listed below to show the reader an example of the information available and display the timber sales scheduled for the current fiscal year.

Table A-5. Tongass Ten Year Timber Sale Schedule – Fiscal Year 2001

NEPA Project	Decision Date	RD	S+U (MMBF)	Sale Name	Vol S+U (MMBF)	Class	FY 01 Gate 3	FY 01 Gate 5
Salty EA	X	KRD		Salty	5.5	S		5.5
Emerald Bay *	Jan-01	KRD		Emerald Bay	10.5	S		10.5
Craig Small Sales	X	CRD	2.0	Small Sales	2.0	S	2.0	2.0
Cholmondeley EIS *	Jun-01	CRD	35.0	Sunny	7.0	S	7.0	7.0
Cholmondeley EIS *	Jun-01	CRD		Cher	5.0	S	5.0	5.0
Chasina EIS	X	CRD		Johnston Mtn.	5.9	S	5.9	5.9
TNB Small Sales	7.0	TNB		Various (3MMBF of FY 00 Sales)	7	S	7.0	7.0
Luck Lake EIS	X	TNB	7.0	Luck Lake (FY 00 Sale)	8	S	2.0	8.0
Luck Lake EIS	X	TNB		Twin Bridge	6	S	1.0	6.0
Control Lake EIS	X	TNB		Pepper (FY 00 Sale)	6	S	1.0	6.0
Control Lake EIS	X	TNB		Summore Change	8	S	8.0	8.0
Control Lake EIS	X	TNB		Mad Rush	5	S	5.0	5.0
Control Lake EIS	X	TNB		Musky Beaver	0.2	S	0.2	0.2
Control Lake EIS	X	TNB		Chrome	3.9	S	3.9	3.9
Lab Bay EIS	X	TNB		Thorne Island (Helicopter, water drop)	3.5	S	3.5	3.5
8-Fathom EIS	X	HRD		Hot Springs	4.4	S		4.4
HRD Small Sales	X	HRD	0.2	Small Sales	0.2	S	0.2	0.2
YRD Small Sales	X	YRD	0.3	Small Salvage	0.3	S	0.3	0.3
South Lindenberg EIS	X	PRD	20.0	South Sand	1.0	S	1.0	1.0
South Lindenberg EIS	X	PRD		South Park	0.6	S	0.6	0.6
South Lindenberg EIS	X	PRD		South Saddle	2	S	2	2
Twin Creek EA FY 00 Sale	X	PRD		Twin Creek Heli (FY 00 Sale)	1.0	S	1.0	1.0
Twin Creek EA	X	PRD		Twin Creek Heli #15 (FY 00 Sale)	0.1	S	0.1	0.1
Crane and Rowan Mtn.	X	PRD		Road 6402	6	S	6.0	6.0
Kuakan	X	WRD		Kuakan (FY 00 Sale)	13.9	S	3.0	13.9
Skipping Cow	X	WRD		Skipping Cow (FY 00 Sale)	27	S	5.0	27.0
Madan *	FY-01	WRD	20.0	Madan	20.0	O	20.0	20.0
Doughnut	X	WRD		Doughnut	3.4	S	4.0	4.0

* These NEPA documents are in-progress and may or may not have an action alternative selected. Volumes displayed are for planning purposes only and do not constitute a decision.

The Ten Year Schedule provides a significant amount of information and is described as follows:

NEPA Project: Environmental document project name. This name may or may not differ from the timber sale project name depending on how many sales originate from the original NEPA document.

Decision Date: The date of the decision document, whether planned or actual. "X" denotes project has started and completion is within the Fiscal Year but a specific date (e.g. month) is not firm.

RD: Ranger District office where project is located (PRD=Petersburg Ranger District).

S+U (MMBF): Possible timber volume (sawlog plus utility) that could result if an action alternative is selected from the NEPA document. Generally only appears once in the year the decision is made. If no volume is shown, decision on document was made in another fiscal year.

Sale Name: Timber sale project name. FY OO designates that this timber sale was originally planned to be sold in fiscal year 2000, but due to late NEPA decisions, personnel going to lower 48 states' fires, and other delays caused the timber sale to be advertised late and sold early in FY 2001.

Vol S+U (MMBF): Possible timber sale project volume (sawlog plus utility).

Class: Timber sale size class determination (S-SBA, O=open sale to all bidders).

FY01 Gate 3 (Layout): Only appears in fiscal year sale is to be laid out and appraised. May appear in more than one year.

FY01 Gate 5 (Offer): Only appears in fiscal year sale is to be offered. Number designates potential volume.

The location of timber sale projects are based on the land allocation directed in the Forest Plan decision. Timber sales are located where permitted based on the prescription and objectives of the land use designation. Timber sale projects are located to varying degrees in land use designations identified as Timber Production, Modified Landscape, and Scenic Viewshed.

As stated earlier, the District Ranger is responsible for identifying and recommending the project areas for the Ten Year Timber Sale Schedule. The considerations the Ranger makes on each project includes but are not limited to the following:

- The project area contains a sufficient number of acres allocated to development land use designations to make timber harvest in the area appropriate under the Forest Plan. There is an adequate amount of suitable and available land for timber harvest opportunities. Available information indicates harvest of the amount of timber volume being considered for this project can occur consistent with the Forest Plan standards and guidelines and other resource protection requirements.
- The project and proposed timber harvest volume can contribute to achieving the goals and objectives of implementing the Forest Plan.
- The potential investment in infrastructure (roads, bridges, log transfer facilities, camps, rock pits, etc.) is necessary for sustainable timber harvest offerings. Where infrastructure already exists, this project will enable maintenance and upgrade of the facilities, which is necessary for removal of timber volume.
- The potential effects on subsistence and other resources.
- Based on current year and anticipated outyear timber volume demand; volume currently under contract; anticipated Congressional allocations; and the availability of resources to fully prepare and offer this project for sale, this project is consistent with and meets all laws and regulations. These laws and regulations include Forest Service Policy in the Alaska Region Regional Guide; Best Management Practices; the 1997 *Tongass Land and Resource Management Plan FEIS and ROD*; and all other laws and regulations governing the removal of timber from National Forest System Lands.

How Does This Project Fit into the Tongass Timber Program?

The Woodpecker Project is proposed for offer beginning in Fiscal Year 2002 (Tongass National Forest Ten Year Timber Sale Schedule, approved by Thomas Puchlerz, Forest Supervisor, November 2000). Forest-wide, total offer volume being planned for Fiscal Year 2001 is approximately 194 MMBF. In order to achieve the planned offer date, the Woodpecker Project has a proposed Gate 2 completion date of Fiscal Year 2001 with Gate 3 implementation to begin by Fiscal Year 2002.

The Woodpecker Project is currently in Gate 2, "Volume Under Analysis." The project's action alternatives being addressed in the NEPA analysis range from approximately 6 MMBF to 26 MMBF that could contribute to the Tongass Timber Sale Program. As described earlier, the volume of timber needed to maintain this Pool is 435 MMBF. Currently, Forest-wide, Pool 1 contains from 150.8 MMBF to 159.3 MMBF inclusive of this project. Therefore, the Woodpecker Project is consistent with program planning objectives and necessary to meet the goal of providing an orderly flow of timber from the Tongass on a sustained yield basis. Given the included information, it is reasonable to be conducting the environmental analysis for this project at this time.

Why Can't This Project Occur Somewhere Else?

As previously discussed, the market demand for timber for the next ten years is expected to average 168.7 MMBF per year. The suitable and available land base on the Tongass is capable of supporting an Allowable Sale Quantity of 267 MMBF annually, 220 MMBF of which is considered economical (i.e. the NIC I component). Based on the projected market demand for the planning cycle, all suitable timberlands will eventually be scheduled for harvest to meet the current and projected demand for raw material in Southeast Alaska. The relocation of this project to another area is inefficient and potentially contrary to the standards and guidelines of the Forest Plan. This decision is based on the cumulative impact on other resources from past harvest activities, the location of timber sales under contract, and the eventual use of all suitable lands for timber sale projects.

- Areas with available timber will be necessary to consider for harvest in order to seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle, pursuant to Section 101 of the Tongass Timber Reform Act (TTRA).
- The potential effects on subsistence resources are projected to differ little based on the sequence these areas are harvested. Harvesting other areas with available timber on the Tongass National Forest is expected to have similar potential effects on resources, including those used for subsistence, because of widespread distribution of subsistence use and other factors. Harvest within other areas is foreseeable, in any case over the forest-planning horizon under the Forest Plan.

Appendix A

- Providing substantially less timber volume than required to meet Forest Plan and TTRA Section 101 timber supply and employment objectives in order to avoid harvest in the project area is not necessary or reasonable.
- It is reasonable to schedule harvest in the project area rather than in other areas at the present time based on previous harvest entry and access, level of controversy over subsistence and other effects, the ability to complete the National Environmental Policy Act (NEPA) process and make timber available to meet the needs of dependent industries. Other areas that are reasonable to consider for harvest in the near future are the subjects of other project EIS's that are currently ongoing or scheduled to begin soon.

Appendix B

Activity Cards

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Introduction to Appendix B

Activity cards are used to explain site-specific proposed projects and any resource concerns and mitigations. These activities include: 1) timber harvest units, 2) proposed and existing roads needed for timber harvest, 3) development of recreation sites, and 4) watershed enhancements. Both narratives and maps showing site-specific information are provided.

The first section, Introduction to Unit Cards, explains the harvest treatments for this entry plus the long-term objectives. Following that is a summary of which measures can be used to mitigate resource concerns. These mitigation measures can be either from the Forest Plan or project-specific.

The Introduction to Unit Cards is followed by a narrative card and a map for each proposed harvest unit. These units are in numerical order, but many units have been deferred or deleted from the original unit pool. Note that not every unit is in each alternative and that the alternatives are listed both on the narrative and on the map. The maps show all proposed adjacent units whether or not they are in the same alternatives.

The second section concerns proposed and existing roads. It describes the current condition of existing roads and proposed management of existing and proposed roads. The Introduction to Road Cards explains the terminology used for the Road Management Objective narratives. A map showing all the roads and their desired future management is also included.

The Road Management Objective (RMO) cards for the existing roads are listed first. These are in numerical order, but the major roads (the 6000 series) are listed before the lower standard roads (the 40000 series). Some of these roads also have a site-specific design criteria narrative, if needed. The proposed roads have an RMO card, a site-specific design criteria card, and a map.

The Recreation Cards consist of a narrative and a map for each proposed activity. Design narratives for each proposed project will be developed when it is decided to pursue the project. The proposed projects include dispersed campsites, picnic sites, a trail, and turnouts for parking.

The Watershed Improvement Cards consist of a narrative and a map for each watershed improvement project. The decision to implement these watershed improvement projects has already been made by the District

Ranger with a separate decision. This was done in order to begin the implementation of these projects during the 2001 field season. They are shown in this Final EIS because they were included in the analysis of the alternatives and were included in the Draft EIS. Public comments on these projects have been received and are included in Appendix C, Agency Responses to Public Comments.

Unit Cards

Unit Card Header Information

Each unit card has a header block with the following information. This information is used to generally describe the stand's size, location, and volume removed, and to identify the alternatives in which it is proposed.

Unit size – estimate of acres using aerial photos and GIS information. No units have been flagged on the ground or traversed at this time.

Alternatives – a list of the action alternatives in which the unit is included. A unit may be in one, several, or all action alternatives

Aerial Photo – the identification number of the most recent aerial photograph taken in 1998-1999.

Volume Strata – This is the number of acres broken out by volume strata. Volume strata is defined in the Forest Plan and explained under Vegetation in Chapter 3 of this EIS. If the acres do not add up to the total unit size, some non-forest acres are within the unit.

VCU – the Value Comparison Unit as determined by the Forest Plan

Land Use Designation - the management prescription allocated by the Forest Plan

Est. Timber Volume – an estimated number of board feet to be harvested by alternative. This was derived from GIS and field estimates. A cruise will be done during implementation to determine a more accurate volume.

Within Inventoried Roadless Area? – whether the unit is within the Crystal Inventoried Roadless Area.

Harvest Treatments

The harvest treatment descriptions on the unit cards are basic guidelines to achieve resource concerns and logging system operability that each alternative is proposing for the unit. The harvest treatments describe the appearance of the residual stands after harvest. It includes the amount of retention and whether trees will be removed or retained in patches or

dispersed throughout the stand. A more detailed explanation of the harvest treatment is listed below.

Silvicultural Systems

Silvicultural systems have been developed to meet the management objectives based on the site and Forest Plan direction. These objectives include retaining stand legacy or old-growth characteristics to maintain biodiversity, economics, logging feasibility and protection of the soil, watershed, wildlife habitat, and scenery values of the proposed unit. Adjacent areas were taken into consideration when developing these objectives.

A complete silvicultural prescription for the entire length of the rotation will be written for each stand selected for harvest. These prescriptions provide guidance for treatments following this proposed timber harvest, including subsequent entries, cedar interplanting, thinning, pruning, and fertilization through the entire rotation.

Silvicultural prescriptions will include these unit cards plus the sale layout and marking guidelines and will be completed for each of the timber harvest units that are included in the Woodpecker Project Area Record of Decision. Minor changes are expected during implementation to better meet on-site resource management and protection objectives. Minor adjustments to unit boundaries are also likely during final layout for the purpose of improving logging system efficiency or for site conditions.

These cards will be used during the implementation process to assure that all aspects of the project are implemented within applicable standards and guidelines. If needed during sale implementation, an interdisciplinary team will discuss any changes. Subsequent analysis and supplements to the EIS may be needed, as determined by the Responsible Official. Similar cards will be used to document any changes to the planned layout as the actual layout and harvest of the units occurs with project implementation.

The harvest treatments found on the unit cards are descriptions of what will occur under various silvicultural systems. Three silvicultural systems based on the number of age classes (uneven-aged, two-aged, and even-aged) and four regeneration methods (group selection, single tree selection, clearcut with reserves, and clearcut) were used to develop these harvest treatments. The harvest treatment for a proposed unit for the Woodpecker Project Area is the initial entry for the silvicultural prescription.

Uneven-aged Management

An uneven-aged silvicultural system with a regeneration method of group selection is described in the unit cards as a harvest method where 50 – 66 percent or 75 percent of the stand is retained. Trees are to be removed in 2-acre or less openings and corridors, and 3-acre or less openings and corridors.

Introduction to Unit Cards

Removal of patches of trees

Merchantable trees (trees greater than 9 inches in diameter) would be harvested in small patches to form a mosaic of irregularly shaped openings within the stand. Smaller trees may be left in this area if the larger trees can be safely removed. Each group harvested would consist of a mixture of tree sizes. Groups of trees infected with dwarf mistletoe would be targeted for removal to avoid infection for the regeneration. Groups with windfirm characteristics are a high priority to leave. Each harvested opening will regenerate, creating a patch of trees with a uniform age and height. This will maintain or create a stand of three or more distinct size classes in small groups. At the end of the rotation, the result will be an uneven-aged stand.

These groups will provide small foraging areas interspersed with cover. The large trees provide habitat for cavity nesters and marten. The appearance of the residual stand mimics natural blowdown patches.

All three logging systems can be used to harvest the trees within the groups. Cable yarding results in a more linear pattern up-and-down the slope to form a corridor. There is more flexibility for yarding uphill since there is more control over the tree being removed. Shovel yarding can harvest groups, but these groups would either be connected by a narrow path or adjacent to the road. Helicopter is the most flexible yarding system for yarding groups. Three types of removal based on size of patches and the amount of trees to be retained were recommended for the Woodpecker Project Area.

75 percent retention

Twenty-five percent of the area within the unit would be harvested in patches two-acres or less in size. The selection of these patches will also be based on the basal area of the stand, resulting in the same percentage of basal area removed. This prescription meets the Marten Standards and Guidelines. To minimize the possibility of windthrow in areas with windthrow potential, the patches will be designed with irregular boundaries. Some groups of trees may be retained for the length of the rotation. Additional entries may occur.

50-66 percent retention

- One-third to one-half of the area within the unit would be harvested in patches up to two acres or less in size. The selection of these patches will also be based on the basal area of the stand, resulting in the same percentage of basal area removed. This prescription meets the Marten Standards and Guidelines. To minimize the possibility of windthrow in areas with windthrow potential, the patches will be

Introduction to Unit Cards

designed with irregular boundaries. Other entries may occur. Some groups of trees may be retained for the length of the rotation.

-or-

- One-third to one-half of the area within the unit would be harvested in patches up to three acres in size to meet Visual Quality Objectives. The selection of these patches will also be based on the basal area of the stand, resulting in the same percentage of basal area removed. To minimize the possibility of windthrow in areas with windthrow potential, the patches will be designed with irregular boundaries. Additional entries may occur. Some groups of trees may be retained for the length of the rotation.

An uneven-aged silvicultural system with a regeneration method of single tree selection is described in the unit cards as a harvest method where 50 – 66 percent or 75 percent of the stand is retained. Scattered trees and/or clumps of trees are to be removed.

Removal of trees distributed across the stand

This will regenerate and maintain a multi-aged structure by removing some trees in various size classes distributed across the stand. The trees to be harvested would be selected using a criterion such as species, diameter limits or spacing. A range of diameters, or everything above or below a certain diameter limit may define the trees selected for harvest. Different diameters may be used for different species. The diameter limits may need to be based on statistically accurate cruise data determined at the time of implementation to ensure that the percent of retention will be met. Other units may have each tree marked on the ground according to the management objectives. The resulting stand may have small openings and/or individual trees harvested throughout the stand. Sometimes other trees may be harvested to create safe working conditions or for logging operability. The stand after harvest will retain old-growth characteristics but may fall within a lower volume strata.

Removing trees throughout the stand would retain a continuous large tree canopy following harvest and still manage the stand for timber production. The residual stand would have structural diversity that would provide wildlife habitat and maintain scenic quality. This will maintain or create a stand of three or more distinct size classes distributed throughout the stand. At the end of the rotation, the result will be an uneven-aged stand.

All three logging systems can be used for this system. Where cable-yarding systems are used, it would be restricted to uphill yarding and

Introduction to Unit Cards

some short (less than 300 ft. slope distance from yarder) downhill yarding. Cable corridor widths will be minimized and lateral yarding will be used to access the individual selected trees. Shovel yarding is effective but some trees other than the selected ones may need to be removed for operability. Helicopter is the most flexible yarding system, but it is sometimes difficult to lift selected trees without removing other trees.

75 percent retention

Twenty-five percent of the trees would be harvested within the unit. There may be additional entries. Some trees may be retained for the length of the rotation. Marten Standards and Guidelines would be used to select some of the trees retained in areas of high value marten habitat. This would mean leaving large trees that would be good for marten habitat – see the guidelines under mitigation measures for marten. Trees displaying windfirm characteristics would be retained.

50 to 66 percent retention

One-third to one-half of the trees would be removed. There may be additional entries. Some trees may be retained for the length of the rotation. Marten Standards and Guidelines would be used to select some of the trees retained in areas of high value marten habitat. This would mean leaving large trees that would be good for marten habitat – see the guidelines under mitigation measures for marten. Trees displaying windfirm characteristics would be retained.

Two-aged Management

A two-aged silvicultural system with a regeneration method of clearcut with reserves is described in the unit cards as a harvest method where 20-30 percent of the stand is retained as scattered trees or in clumps of trees.

Retention of 20-30 percent reserve trees

Some of the trees would be reserved as legacy trees through the 200-year rotation. These reserve trees may be dispersed throughout the stand or in clumps and can be merchantable or unmerchantable. Reserve trees may be of any size and should be relatively windfirm. In stands where there is possible windthrow, reserve trees may be positioned to provide a windfirm buffer to adjacent stands and riparian areas. The residual stand would have a two-layered canopy structure with two or more age classes of trees. In areas of high value marten habitat, the Marten Standards and Guidelines for tree size and numbers of trees would be followed to determine the trees to be left. This would include at least seven large standing trees and smaller trees for stand structure to retain 20-30 percent of the basal area.

The large trees that remain will provide wildlife habitat for old-growth associated species, such as cavity nesters and roosts for foraging raptors. These trees will also provide stand structure that will lessen the effect for scenery concerns. This will maintain or create a stand of two or more distinct size classes. At the end of the rotation, the result will be a mature stand with some older trees.

All three logging systems would be used for this system. Where cable-yarding systems are used, the trees would be left in clumps along splitlines rather than scattered for downhill yarding. Uphill cable yarding can leave some scattered trees along with clumps. Shovel yarding and helicopter yarding both can leave scattered residual trees but some clumps may be left.

Even-aged Management

An even-aged silvicultural system with a regeneration method of clearcut is described in the unit cards as a harvest method where all merchantable trees are removed and unmerchantable trees are scattered or in clumps where safe to do so.

0 percent retention of merchantable trees

All merchantable trees will be harvested. The objective is to create a fast growing stand of trees to maximize wood-fiber production. Some unmerchantable trees may be left if disease-free to create future stand diversity, if the larger trees can be removed safely. The stand would regenerate into a mostly single-age stand.

Logging/Transportation Systems

This section lists the logging system proposed for each alternative and whether classified road needed for long-term management or temporary road construction is needed for access to the unit. More information on the roads is located on the Road Cards that follow the unit cards. The logging systems are discussed in Chapter 3 under Issue 3, Economics.

Resource Concerns and Mitigations

Some resource concerns are mitigated by using silvicultural prescriptions other than clearcutting. In the Woodpecker Project Area, most of the wildlife, scenery, and windthrow concerns are mitigated with the silvicultural system. Other resource concerns, such as watershed, soils, and fisheries concerns are mitigated by unit design.

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Marten

The following Forest-wide Standards and Guidelines for the American Marten (Forest Plan, pages 4-118 and 4-119) were applied to harvest units in high value marten habitat in the Woodpecker Project Area:

- Retain approximately 10-20 percent of the original stand structure.
- Retain an average of at least four large trees per acre (20-30" DBH or greater) for future snag recruitment. Where not available substitute the next largest trees.
- Retain an average of at least three large decadent (dead or dying) trees per acres (20-30" DBH or greater). Where not available substitute the next largest decadent trees.
- Retain an average of at least three pieces per acre of down material (logs 20-30" or greater in diameter at the large end and 10' long), generally distributed throughout the harvest unit.
- Retained trees should have a reasonable assurance of windfirmness.
- Consider adding smaller or younger trees for future structure recruitment and to improve windfirmness.

Implementation of these guidelines helps meet the objective to manage high value marten habitat to retain features of forest stand structure important to marten habitat use. Additional habitat is provided by an old-growth habitat reserve system, which has been adopted and implemented in accordance with Forest Plan direction. Habitat is also retained in beach, estuary and riparian buffers.

Loss of Old-Growth Habitat

Loss of old-growth habitat is a wildlife concern for most of the proposed harvest units. The use of uneven-aged management mitigates this concern for many units. Another method of mitigating the loss of old-growth habitat is to leave reserve trees of all ages and sizes, with an emphasis on snags and dying trees. The retention of these reserve trees is part of two-aged management. In clearcuts, where feasible for safety concerns, unmerchantable trees may be left.

Sitka Black-Tailed Deer

Several harvest treatments maintain habitat value to deer through time. Removal of trees in patches will create a mosaic of old-growth forest with regeneration in the openings. If 25 percent of a unit were harvested by removal of patches of trees, the harvested 25 percent will have deer winter habitat values similar to a clearcut, and the other 75 percent of the unit will have old-growth values. When 25 percent of the trees dispersed throughout the stand are removed, the volume of the stand will be lower, but the stand will retain some old-growth characteristics.

Raptor and Great Blue Heron Nests

Habitat buffers will be established around all known or subsequently discovered raptor and great blue heron nests, in accordance with Forest Plan standards and guidelines. Timing restrictions will be placed on activities around the nests during active nesting and fledging periods to minimize disturbance to the birds using the nests. Standards used to protect nest sites vary depending on the type of nest located.

Waterfowl Nesting and Brood-Rearing

Wetlands that are known or likely to be used by waterfowl for nesting, brooding, and rearing have been identified. Buffers of 330-foot width have been placed around these wetlands, according to Forest Plan standards and guidelines. Timing clauses have been placed on these buffers and on adjacent units to restrict logging and roading activities, generally during the period April 1 to July 31, if waterfowl activity is present.

Windfirmness

Windthrow concerns were mitigated through selection of windfirm trees for retention, unit design and silvicultural prescriptions.

Where possible, trees remaining in harvested units will display windfirm characteristics. This will occur under uneven-aged management where individual trees are to be removed and under two-aged management where individual trees or small clumps will be left dispersed throughout the unit. Some of the characteristics of windfirm trees include:

- Open-grown trees, which have been exposed to storm winds throughout their life
- Dominant trees with crowns well above the average stand height
- Short trees with a low form class and high stem taper
- Straight trees, with well-formed stems and no lean
- No stem or root decay and no stem swelling
- Western redcedar, Alaska yellow-cedar, and immature alder species (Harris, 1989)

In two-aged managed units where a windthrow potential occurs, windfirm buffers may be designed to mitigate the effects on adjacent stands. A windfirm buffer would generally be about 100' wide along an irregular unit boundary and consist of approximately 25 dispersed small diameter trees per acre (usually under 18" DBH).

In many units uneven-aged management prescriptions mitigate windthrow concerns by harvesting small patches of trees (2-3 acres). These patches will be irregularly shaped and target trees infected with dwarf mistletoe. Patches with windfirm characteristics will be a high priority to retain in these units.

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Water Quality and Fisheries

All known streams are shown on the unit card maps in relation to the location of existing roads and approximate location of proposed roads. These streams, and any additional streams, if found, will be protected by following the Forest Plan Riparian Standards and Guidelines listed below. Class IV streams will be protected following Best Management Practices (Forest Plan, Appendix C). Timing restrictions for in-stream work are located on the road cards.

Units were designed so that all Class I and Class II streams and their associated no-programmed-timber harvest buffers are outside of the unit boundaries.

Riparian Management Areas

Riparian Forest-wide Standards and Guidelines are a combination of no harvest buffers and windfirm buffers along streams and yarding guidelines to protect soil from erosion based on stream classes and channel types. For full descriptions of the standards and guidelines, see the Forest Plan, (pages 4-53 to 4-73).

Riparian Standards and Guidelines for Timber Harvest

The Tongass Timber Reform Act (TTRA) mandates the use of minimum 100-foot wide buffer strips along both sides of all Class I and Class II streams that flow into Class I streams. This was incorporated into the Forest Plan Riparian Standards and Guidelines as “No commercial harvest within 100’ of Class I streams and Class II streams that flow directly into Class I streams.”

The minimum 100-foot wide buffer strips mandated by TTRA are expanded for some channel types to include an additional buffer where no programmed commercial timber harvest can occur. The need for this no-harvest buffer is determined for streams using the AHMU Class and the process group. The width is based either on the height of a site-potential tree, the presence of riparian vegetation or soils, flood plains or fens. The height of a site potential tree is determined by the productivity of the site and ranges from 110 to 140 feet.

Windfirm buffers

Windthrow events are the dominant agent for disturbance within the Woodpecker Project area. The affects of these events on the landscape vary depending on the position of the windthrow in the landscape, the magnitude of its occurrence, and its proximity to streamside riparian buffers. Small-scale windthrow in combination with bank undercutting plays an integral part in maintaining healthy fish habitat. These natural

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events supply the stream with the large woody debris needed for pool formation, hiding cover, sediment retention, and energy dissipation.

When large woody debris is parceled to streams over long periods of time, the tools streams need for habitat maintenance are available. However, when streamside windthrow occurs on larger scales, loss of wildlife corridors, increased sedimentation, channel scour, and debris jam formation are often the results. More importantly, the mechanism that allows the recruitment of large woody debris to a stream over time for the maintenance of fish habitat will be compromised. To mitigate these effects the Forest Plan has set standards and guidelines for the establishment of windfirm buffers.

An appropriate distance will be managed beyond the no-harvest zone, for all buffers within and adjacent to proposed units. This will provide for a reasonable assurance of windfirmness of the Riparian Management Area buffer, paying special attention to the area within one site-potential tree height of the Riparian Management Area. Other management techniques may reduce the occurrence of windthrow to the riparian buffer. The use of partial harvest retention in or around streamside buffers is applied in all but three units, which are proposed only in Alternative 5. The partial harvest units that retain 20 to 75 percent of basal area are expected to dissipate wind energy before it reaches riparian buffers.

Logging System Controls

Log yarding practices are based on channel type and stream class. Some yarding guidelines include: partial or full suspension of logs, minimizing the exposure of mineral soil, and split-line yarding on either side of the stream. The objective is to minimize alder growth and formation of new channels (BMP 13.9).

Best Management Practices

The following Best Management Practices (BMPs) are applied to streams in the Woodpecker Project Area, as specified in the Forest Plan (pages C-1 to C-3). The BMPs are cited on the Unit Cards where appropriate. Not all BMPs apply to every stream.

BMP 12.6 (Riparian Area Designation and Protection) - To identify riparian areas and their associated management activities.

BMP 12.6a (Buffer Design and Layout) - To design streamside buffers to meet objectives defined during the implementation of BMP 12.6.

BMP 13.16 (Stream Channel Protection - Implementation and Enforcement) - To provide site-specific stream protection prescriptions

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consistent with objectives identified under BMPs 12.6 and 12.6a. Objectives may include the following:

- maintain the natural flow regime,
- provide for unobstructed passage of stormflows,
- maintain integrity of the riparian buffer to filter sediment and other pollutants,
- restore the natural course of any stream that has been diverted as soon as practicable,
- maintain natural channel integrity to protect aquatic habitat and other beneficial use, and
- prevent adverse changes to the natural stream temperature regime.

BMP 13.9 (Determining Guidelines for Yarding Operations) - To select appropriate yarding systems and guidelines for protecting soil and water resources.

BMP 14.6 (Timing Restrictions for Construction Activities) - Minimize erosion potential by restricting the operating schedule and conducting operations during lower risk periods.

Process Groups and Channel Types (Forest Plan, page D-3)

A process group describes streams with similar interrelationships between watershed runoff, landform relief, geology, and glacial or tidal influences on erosion and deposition. A channel type more precisely characterizes a stream and helps predict the probable responses to natural and human influences. Channel types incorporate other aspects such as gradient, pattern, stream bank incision and containment and riparian area vegetation communities. See the Forest Plan, Figure D-1 (page D-4) for a visual representation of the typical distribution of channel process groups. The following table shows the Forest Plan codes used on the unit card narratives. Each unit card summarizes the protection. Only the channel types found in the Woodpecker Project Area are listed.

Table B-1. Channel Types in the Woodpecker Project Area

Process Group	Channel Type Code	Channel Type Description
Alluvial Fan	AF1	Moderate Gradient Alluvial Fan Channel
	AF2	High Gradient Alluvial Cone Channel
Estuarine	ES2	Narrow Small Substrate Estuarine Channel
	ES3	Narrow Large Substrate Estuarine Channel
Flood Plain	FP1	Uplifted Beach Channel
	FP2	Uplifted Estuarine Channel
	FP3	Narrow Low Gradient Flood Plain Channel
	FP4	Low Gradient Flood Plain Channel
High Gradient Contained	HC1	Shallowly Incised Muskeg Channel
	HC2	Shallowly to Moderately Incised Footslope Channel
	HC3	Deeply Incised Upper Valley Channel
	HC4	Deeply Incised Muskeg Channel
	HC5	Shallowly Incised Very High Gradient Channel
	HC6	Deeply Incised Mountain Slope Channel
Large Contained	LC2	Moderate Gradient Contained Channel
Moderate Gradient Contained	MC1	Narrow Shallow Contained Channel
	MC2	Moderate Width and Incision Contained Channel
	MC3	Deeply Incised Contained Channel
Moderate Gradient, Mixed Control	MM1	Narrow Mixed Control Channel
	MM2	Moderate Width Mixed Control Channel
Palustrine	PA1	Narrow Placid Flow Channel
	PA2	Moderate Width Placid Flow Channel
	PA4	Flood Plain Backwater Slough
	PA5	Beaver Dam/Pond Channel

Scenery

The standards and guidelines for the scenery management of an area are determined by the number of viewers, distance from the viewer (Distance Zones), and the ability of the landscape to absorb change (Visual Absorption Capability, or VAC).

Distance Zones

- Foreground (0 - ½ mile)
- Middleground (½ - 3 to 5 miles)
- Background (3 to 5 miles and greater)

Visual Absorption Capability

- Low VAC - Steep slopes and uniform vegetation

Introduction to Unit Cards

- Intermediate VAC – Gentle slopes, some variation in vegetation
- High VAC – Flat muskeg and forest mosaics

Visual Quality Objectives

The following Visual Quality Objectives from the Forest Plan provide standards for management based on the landscape's scenic characteristics and public viewing concern.

Retention: Changes in the landscape must not be visually evident to the casual forest observer.

Partial Retention: Changes in the landscape may be visually evident, but must be integrated into and visually subordinate to the surrounding landscape and should not attract attention.

Modification: Changes in the landscape may visually dominate the surrounding natural landscape, however they should be compatible with the surrounding natural landscape.

Maximum Modification: Management activities may visually dominate the characteristic or surrounding natural landscape.

Scenery Standards and Guidelines by Land Use Designation

The guidelines for scenery differ within the three Land Use Designations (LUDs) that allow timber harvest. The Land Use Designations in the Woodpecker Project Area are shown on Figure B-1.

For areas visible from Visual Priority Travel Routes and Use Areas:

LUD Distance Zone	Scenic Viewshed	Modified Landscape	Timber Management
Foreground	Retention	Partial Retention	Modification
Middleground	Partial Retention	Modification	Maximum Modification
Background	Partial Retention	Modification	Maximum Modification

For areas not visible from Visual Priority Travel Routes and Use Areas:

All areas - Maximum Modification VQO

The primary scenic objective for Scenic Viewshed LUD is to retain a natural-appearing landscape over time, if viewed from Visual Priority Travel Routes and Use Areas. For the Modified Landscape LUD, the primary scenic objective is to minimize development in the near viewing area while allowing a sustained yield of timber and mix of other resource activities in other viewing areas over time. The Timber Production LUD focuses on achieving visual characteristics similar to natural occurrences in the near viewing area while allowing a sustained yield of timber.

Visual Quality Objectives for Units in the Scenic Viewshed LUD

Retention/Partial Retention - Units 148a, 150

Partial Retention - Units 34, 67, 73, 75, 77, 78, 78a, 80, 81, 90, 90a, 121, 122, 122a, 125, 35a, 148, 149

Modification - Units 81a, 105, 161a

Units 81 and 90 are in areas of high visual absorption capability (VAC). All other units are in areas of low to intermediate VAC.

Visual Quality Objectives for Units in the Modified Landscape LUD:

Partial Retention - Units 90b, 141

Modification - Units 90c, 90f, 92, 93, 98, 102, 103, 104b, 104c, 109, 110, 117a, 117b, 117c, 117d, 118, 119, 119a, 119b, 123, 166a, 174, 187

Units 90b, 141, 166a, 174, and 187 are in areas of low to intermediate VAC. All other units are in areas of high VAC.

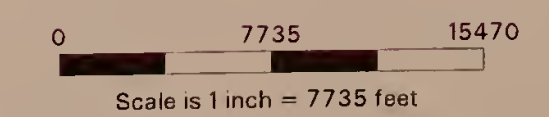
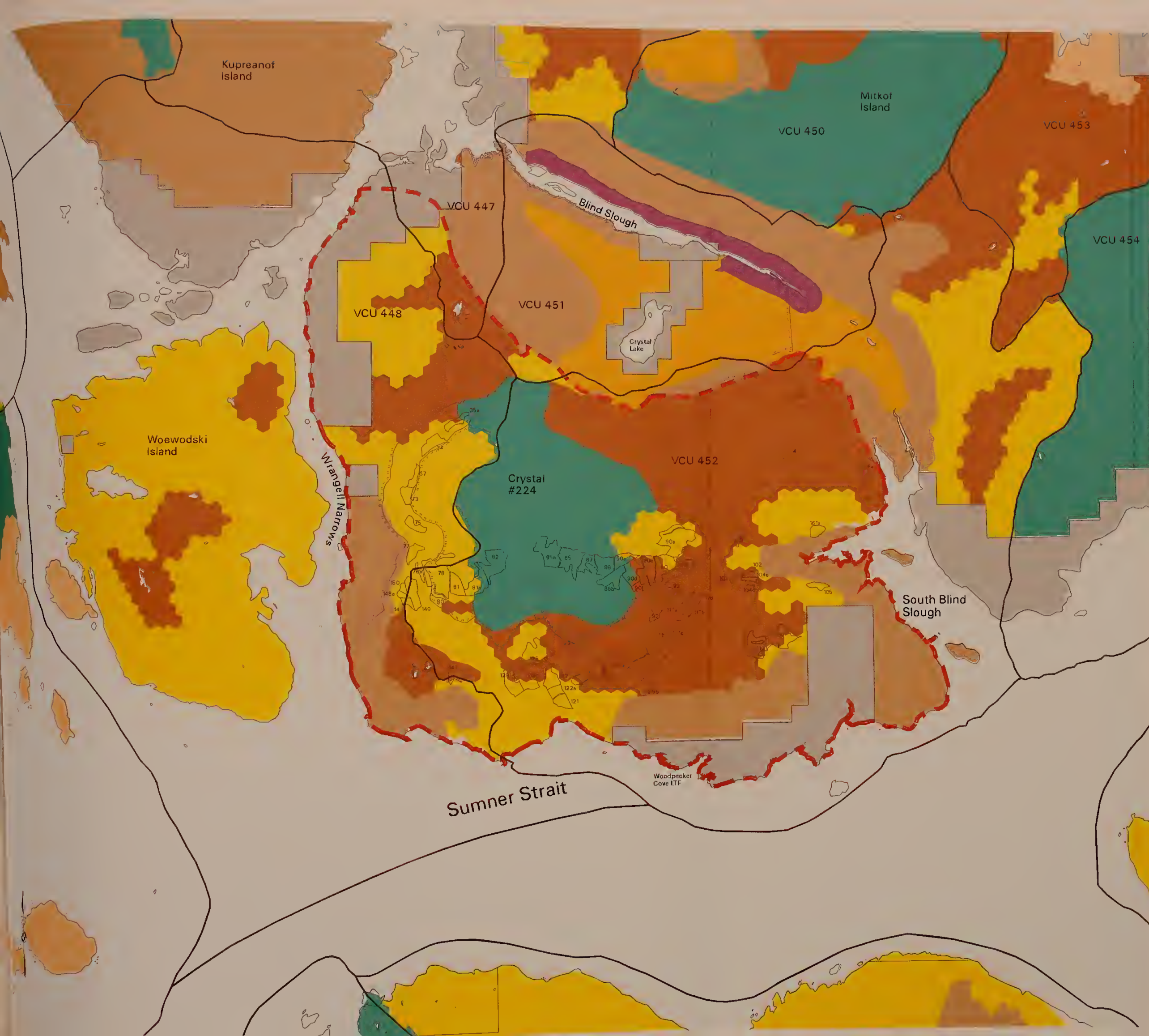
Visual Quality Objectives for Units in the Timber Production LUD:

Modification - Units 82, 85, 85a, 87, 88, 88b, 90d, 90e

All units are in areas of high visual absorption capability (VAC).

Woodpecker Project Area Figure B-1 Forest Land Use Designations and Unit Pool

- LEGEND**
- MODIFIED LANDSCAPE
 - NONNATIONAL FOREST
 - OLD GROWTH HABITAT
 - SPECIAL INTEREST AREA
 - SEMIREMOTE RECREATION
 - SCENIC VIEWSHED
 - TIMBER PRODUCTION
 - RECREATION RIVER
 - LAKES/SALTWATER
 - PROJECT AREA BOUNDARY
 - VCU BOUNDARY
 - UNIT BOUNDARY
 - CRYSTAL INVENTORIED ROADLESS AREA





Unit Card Narratives and Maps

Woodpecker Project Area Unit Card Narrative

Unit #: 34	Unit Size : 32 acres	Alternative: 2,3,4,5,6
Aerial Photo: 1998 1798- 233	Volume strata: 18	acres high
VCU: 448		14 acres medium
Land Use Designation: Scenic Viewshed		
Within Inventoried Roadless Area? No	Estimated timber volume: 500	mbf Alts. 2,3,4,6
	800	mbf Alt. 5

Harvest Treatment: Alternatives 2, 3, 4 and 6: 50-66% retention, remove trees in 2-acre or less corridors
 Alternative 5: 20-30% retention, leave trees in clumps; leave some clumps along Road 6245 and along the backline

Logging/Transportation Systems: Cable yarding / two temporary roads

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type MC1
 Stream 2 is Class IV, Channel Type HC5
 Stream 3 is Class IV, Channel Type HC1
 Stream 4 is Class III/IV, Channel Type AF2
 Stream 5 is Class III, Channel Type AF1/HC5

Mitigation: *Streams 1 and 2:* Apply BMP 13.16 (Stream Channel Protection).
Stream 3: Apply BMP 13.16. Recommend leaving reserve trees along stream bank in the east corner of unit.
Streams 4 and 5: No commercial timber harvest within the 140' Riparian Management Area, or within the active portion of the alluvial fan. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.

Concern: Two temporary roads provide continuous landings within the unit.

Mitigation: Remove all drainage structures from the temporary roads to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Soils

Concern: The southern boundary of the unit is adjacent to an area of steep unstable slopes.

Mitigation: The unit boundary was modified to avoid the steep slopes. Check slope stability during sale layout.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

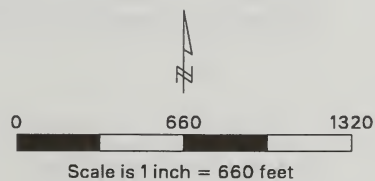
Concern: A portion of the unit is visible from Wrangell Narrows and Crystal Mountain.

Mitigation: Retention of at least 20% of the stand and unit size will meet the Partial Retention VQO.

Woodpecker Unit 34 Alternative 2,3,4,5,6



- | | | | | | |
|--|---------------------------|--|--------------------------------|--|---------------------------------|
| | Existing Managed Stands | | Existing Closed Roads | | Existing Picnic Site |
| | Riparian Management Area | | Proposed Classified Roads | | Existing Turnout with Camp Site |
| | Beach Buffer | | Proposed Temporary Roads | | |
| | Old-growth Reserves | | 500-ft. Contour Interval | | |
| | Lakes | | 100-ft. Contour Interval | | |
| | Proposed Unit Boundaries | | Stream Numbers | | |
| | AHMU-Class 1 Streams | | Proposed Dispersed Picnic Site | | |
| | AHMU-Class 2 Streams | | Proposed Dispersed Camp Site | | |
| | AHMU-Class 3 Streams | | | | |
| | AHMU-Class 4 Streams | | | | |
| | Existing Classified Roads | | | | |



Woodpecker Project Area Unit Card Narrative

Unit #: 35a	Unit Size : 22 acres	Alternative: 2,3,4,5,6
Aerial Photo: 1998 1798-233	Volume strata: 15 acres high	
VCU: 448	7 acres medium	
Land Use Designation: Scenic Viewshed, Modified Landscape, Timber Production		
Within Inventoried Roadless Area? No	Estimated timber volume: 350 mbf	Alts. 2,4,6
	560 mbf	Alts. 3,5

Harvest Treatment: Alternatives 2, 4 and 6: 50-66% retention, remove trees in 2-acre or less corridors
 Alternatives 3 and 5: 20-30% retention, leave trees in clumps; leave some clumps along Road 6245 and along the backline

Logging/Transportation Systems: Cable yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC3
 Stream 2 is Class II, Channel Type HC3
 Stream 3 is Class III, Channel Type HC6
 Stream 4 is Class III, Channel Type AF2

Mitigation: *Stream 1:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, defined as 100'. Apply BMPs 12.6, 12.6a, and 13.16.
Stream 3: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6, 12.6a, and 13.16.
Stream 4: No commercial timber harvest within the 140' Riparian Management Area, or within the active portion of the alluvial fan. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: A temporary road from Road 6245 provides continuous landings along the lower portion of the unit.

Mitigation: Remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Soils

Concern: The southeastern boundary of the unit is adjacent to an area of steep slopes over 72%.

Mitigation: The unit boundary was modified to avoid the steep slopes. Check slope stability during sale layout.

Wildlife

Concern: The unit contains high value marten habitat.

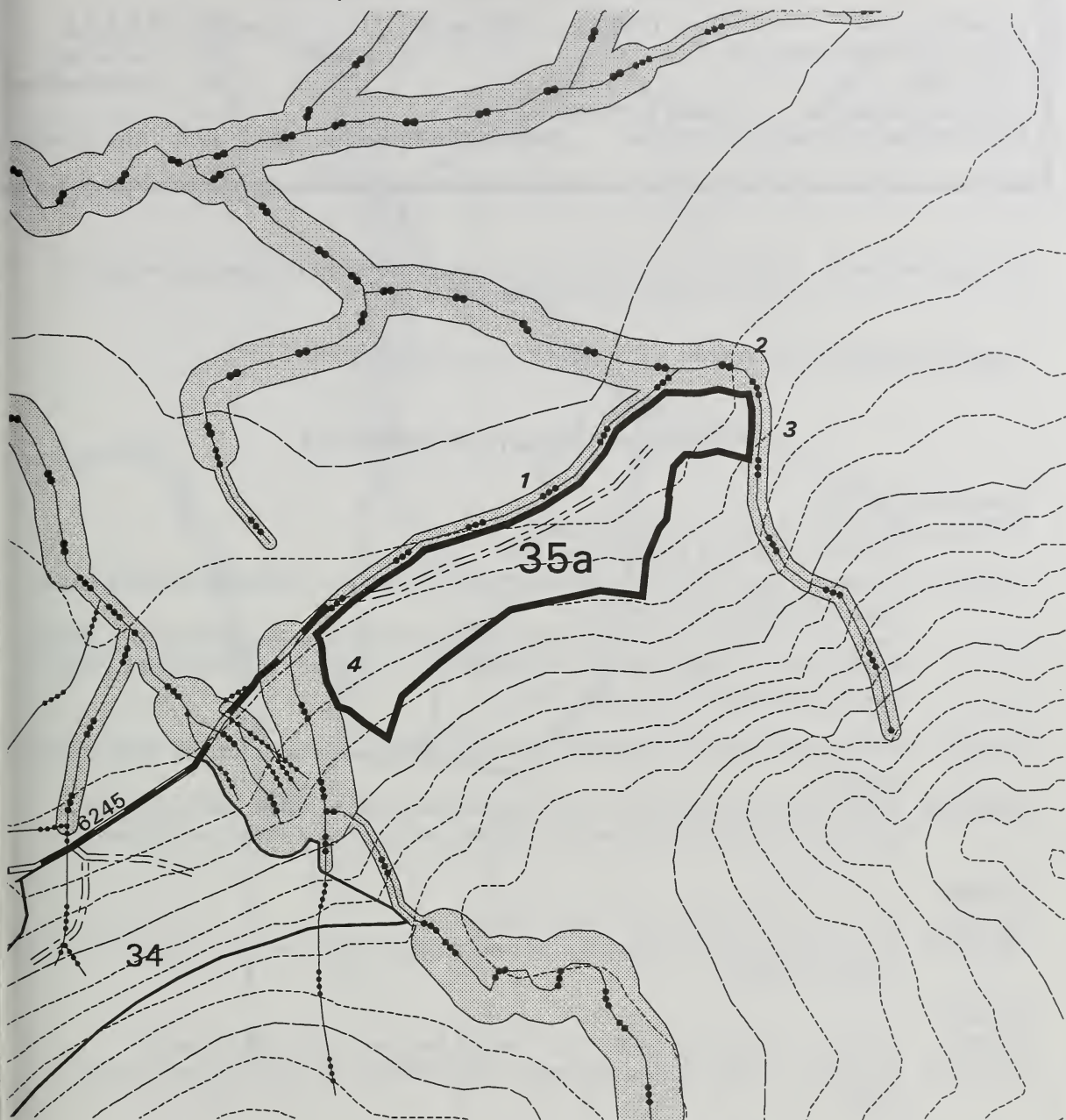
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows and Crystal Mountain.

Mitigation: Retention of at least 20% of the stand and unit size will meet the Partial Retention VQO.

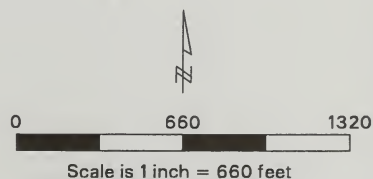
Woodpecker Unit 35a Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: **67** Unit Size : **19 acres** Alternative: **2,3,4,5,6**
Aerial Photo: **1998 1798- 234** Volume strata: **7 acres high**
VCU: **448** **12 acres medium**
Land Use Designation: **Scenic Viewshed**
Within Inventoried Roadless Area? **No** Estimated timber volume: **400 mbf** **Alts. 2,3,4,5,6**

Harvest Treatment: 20-30% retention, leave trees in clumps east of the road; leave trees either in clumps or scattered to the west of the road

Logging/Transportation Systems: Cable yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC5
Stream 2 is Class III, Channel Type HC5

Mitigation: *Stream 1:* Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding where feasible.

Stream 2: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.

Concern: A temporary road from Road 6245 provides continuous landings along the lower portion of the unit.

Mitigation: Remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows and Crystal Mountain.

Mitigation: Retention of at least 20% of the stand and the unit size will meet the Partial Retention VQO.

Wetlands

Concern: There are 5 acres of muskeg/forested wetland along the southern boundary.

Mitigation: Design boundary during layout to avoid muskeg areas.

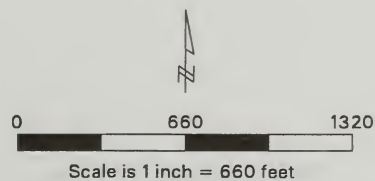
Woodpecker Unit 67 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	73	Unit Size :	22 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 1798-234		Volume strata:	12	acres high
VCU:	448			10	acres medium
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	470	mbf	Alts. 2,3,4,5,6

Harvest Treatment: 20-30% retention, leave trees in clumps east of the road; leave trees either in clumps or scattered to the west of the road

Logging/Transportation Systems: Cable yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC1

Mitigation: Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and splitline yarding and leave reserve trees where feasible.

Concern: A temporary road from Road 6245 provides continuous landings along the lower portion of the unit.

Mitigation: Remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

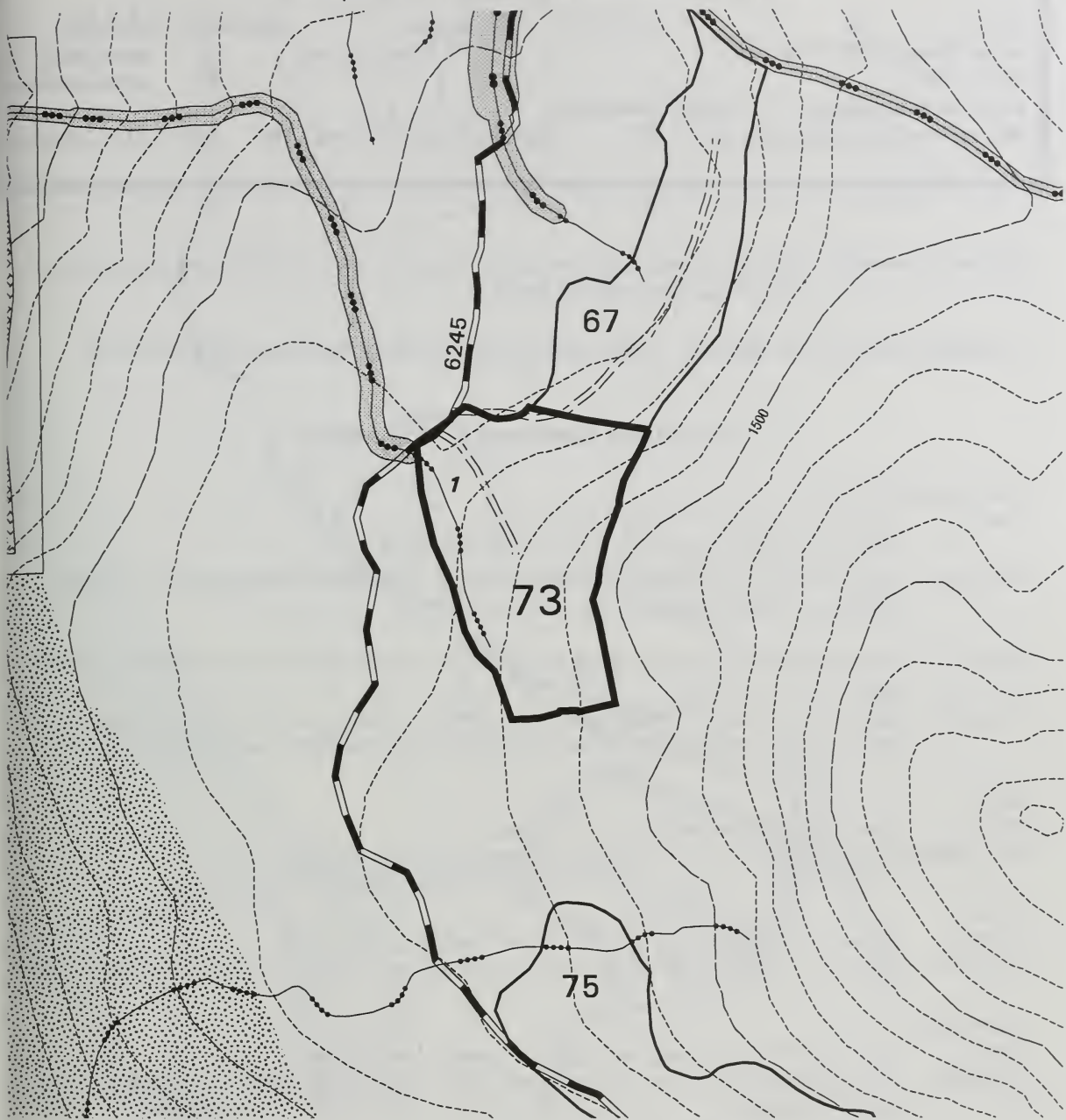
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.












Scenery









Concern: A portion of the unit is visible from Wrangell Narrows and Crystal Mountain.



Mitigation: Retention of at least 20% of the stand and the unit size will meet the Partial Retention VQO.

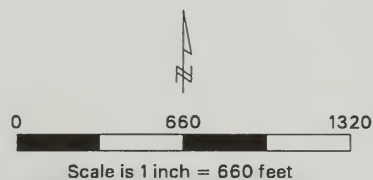
Woodpecker Unit 73 Alternative 2,3,4,5,6



-  Existing Managed Stands
-  Riparian Management Area
-  Beach Buffer
-  Old-growth Reserves
-  Lakes
-  Proposed Unit Boundaries
-  AHMU-Class 1 Streams
-  AHMU-Class 2 Streams
-  AHMU-Class 3 Streams
-  AHMU-Class 4 Streams
-  Existing Classified Roads

-  Existing Closed Roads
-  Proposed Classified Roads
-  Proposed Temporary Roads
-  500-ft. Contour Interval
-  100-ft. Contour Interval
-  Stream Numbers
-  Proposed Dispersed Picnic Site
-  Proposed Dispersed Camp Site

-  Existing Picnic Site
-  Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: **75** Unit Size : **22 acres** Alternative: **2,3,4,5,6**
Aerial Photo: **1998 1798-235** Volume strata: **0 acres high**
VCU: **448** **22 acres medium**
Land Use Designation: **Scenic Viewshed**
Within Inventoried Roadless Area? **No** Estimated timber volume: **180 mbf** **Alts. 2,3,4,5,6**

Harvest Treatment: 50-66% retention, remove trees in 3-acre or less corridors, leave some clumps along Road 6245 where feasible

Logging/Transportation Systems: Cable yarding / one temporary road and existing road 6245

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC5

Streams 2, 3, and 4 are Class IV, Channel Type HC2

Mitigation: Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding and leave reserve trees where feasible.

Concern: A temporary road in the southern half of the unit and Road 6245 provide landings for this unit.

Mitigation: Remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Soils

Concern: Unstable slopes occur northeast of the unit.

Mitigation: The unit was modified to exclude the area of unstable slopes.

Scenery

Concern: A portion of the unit may be visible from the Wrangell Narrows.

Mitigation: Retention of at least 50% of the stand and the unit size will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

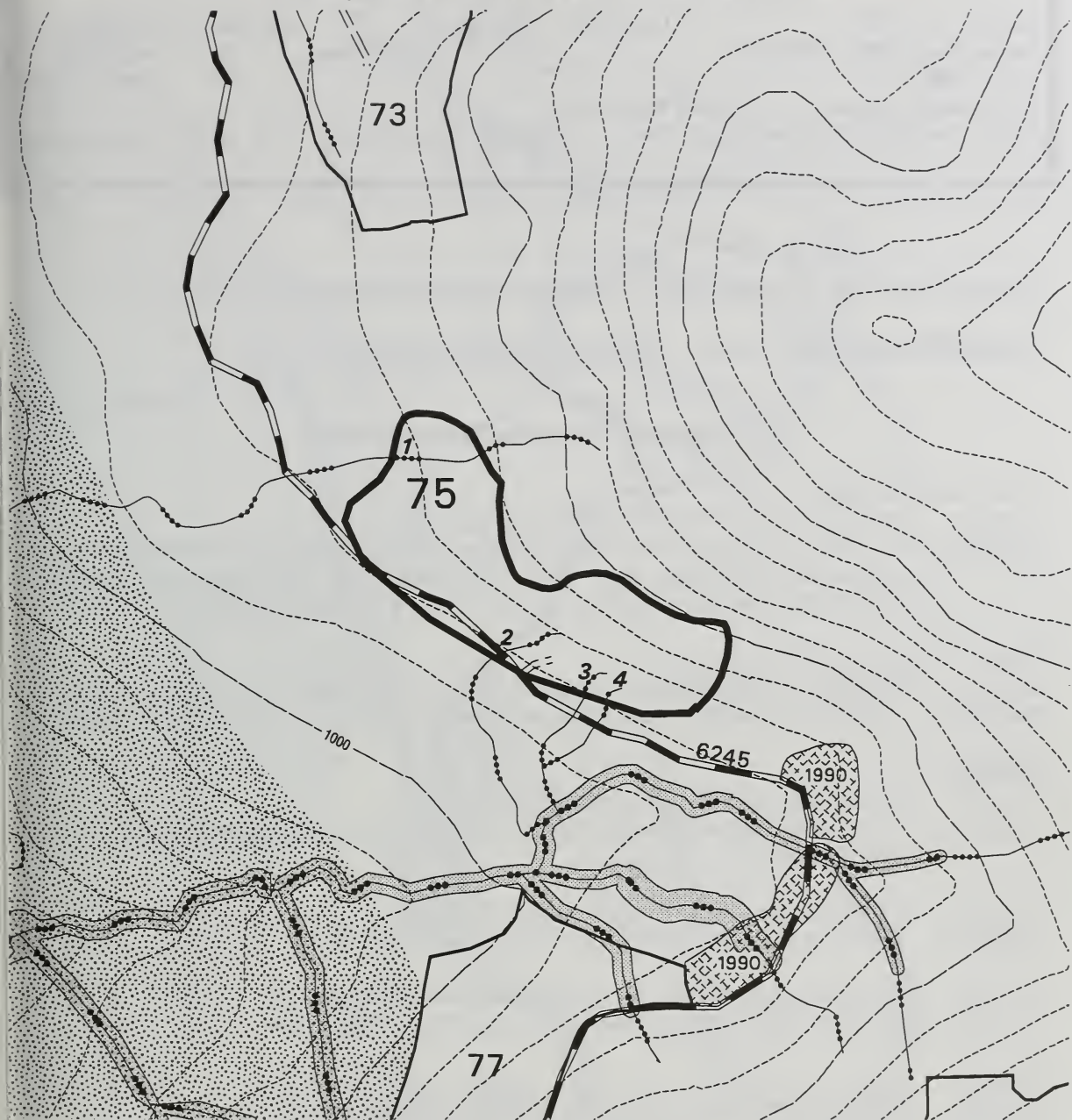
Mitigation: Trees displaying windfirm characteristics will be favored for retention and corridor width will be minimized.

Wetlands

Concern: There are 5 acres of muskeg/forested wetland along the southern boundary.

Mitigation: Design boundary during layout to avoid muskeg areas.

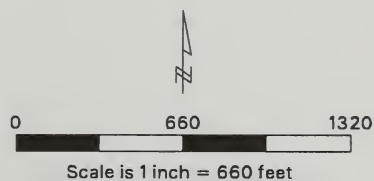
Woodpecker Unit 75 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	77	Unit Size :	23 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 1798-236			Volume strata:	19 acres high
VCU:	448				4 acres medium
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	170 mbf	Alts. 2,3,4,5,6	

Harvest Treatment: 50-66% retention, remove trees dispersed throughout the unit or in corridors

Logging/Transportation Systems: Cable yarding / existing Road 6245

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1 and 2 are Class III and Channel Type HC6

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch or side-slope break. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Soils

Concern: The southern unit boundary is adjacent to steep slopes > 72%.

Mitigation: Check slope stability during layout and modify boundary to avoid any unstable slopes.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Concern: A red-tailed hawk nest is located north of the unit.

Mitigation: A 600-foot no-harvest buffer will be maintained around the nest.

Concern: The unit is adjacent to the Wrangell Narrows Old-growth Reserve.

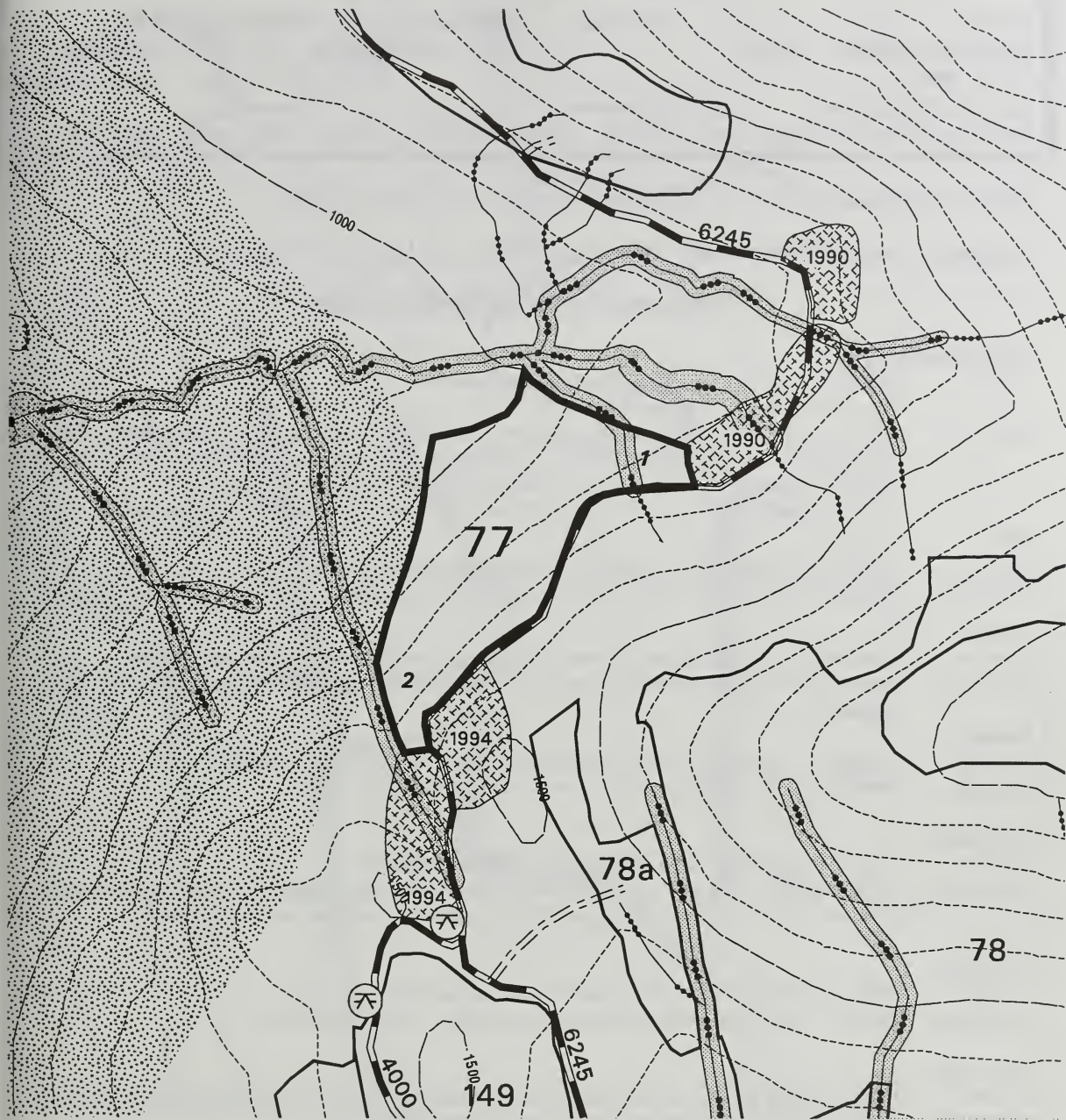
Mitigation: The unit boundary was modified to avoid the Old-growth Reserve.

Scenery

Concern: A portion of the unit may be visible from the Wrangell Narrows.

Mitigation: Retention of at least 50 % of the stand and the unit size will meet the Partial Retention VQO.

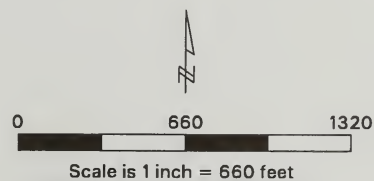
Woodpecker Unit 77 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	78	Unit Size :	105 acres	Alternative:	4,5
Aerial Photo:	1998 1798- 237	Volume strata:	37	acres high	
VCU:	452		42	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	Mostly	Estimated timber volume:	680	mbf	Alts. 4,5

Harvest Treatment: 75% retention, remove trees in 2-acre or less openings

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6245.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1, 3, 4, and 5 are Class III, Channel Type HC6
Stream 2 is Class IV, Channel Type HC0

Mitigation: *Streams 1, 3, 4, and 5:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Soils

Concern: The north central unit boundary is adjacent to steep slopes > 72%.
Mitigation: Check slope stability during layout and modify boundary to avoid any unstable slopes.

Wildlife

Concern: The southwest portion of the unit west of the stream contains high value marten habitat.
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows and Crystal Mountain.
Mitigation: Retention of 75% of the stand will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.
Mitigation: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted.

Wetlands

Concern: There are 83 acres of forested upland/wetland mosaic within the unit.
Mitigation: The use of helicopter logging will make it possible to avoid wetland areas.

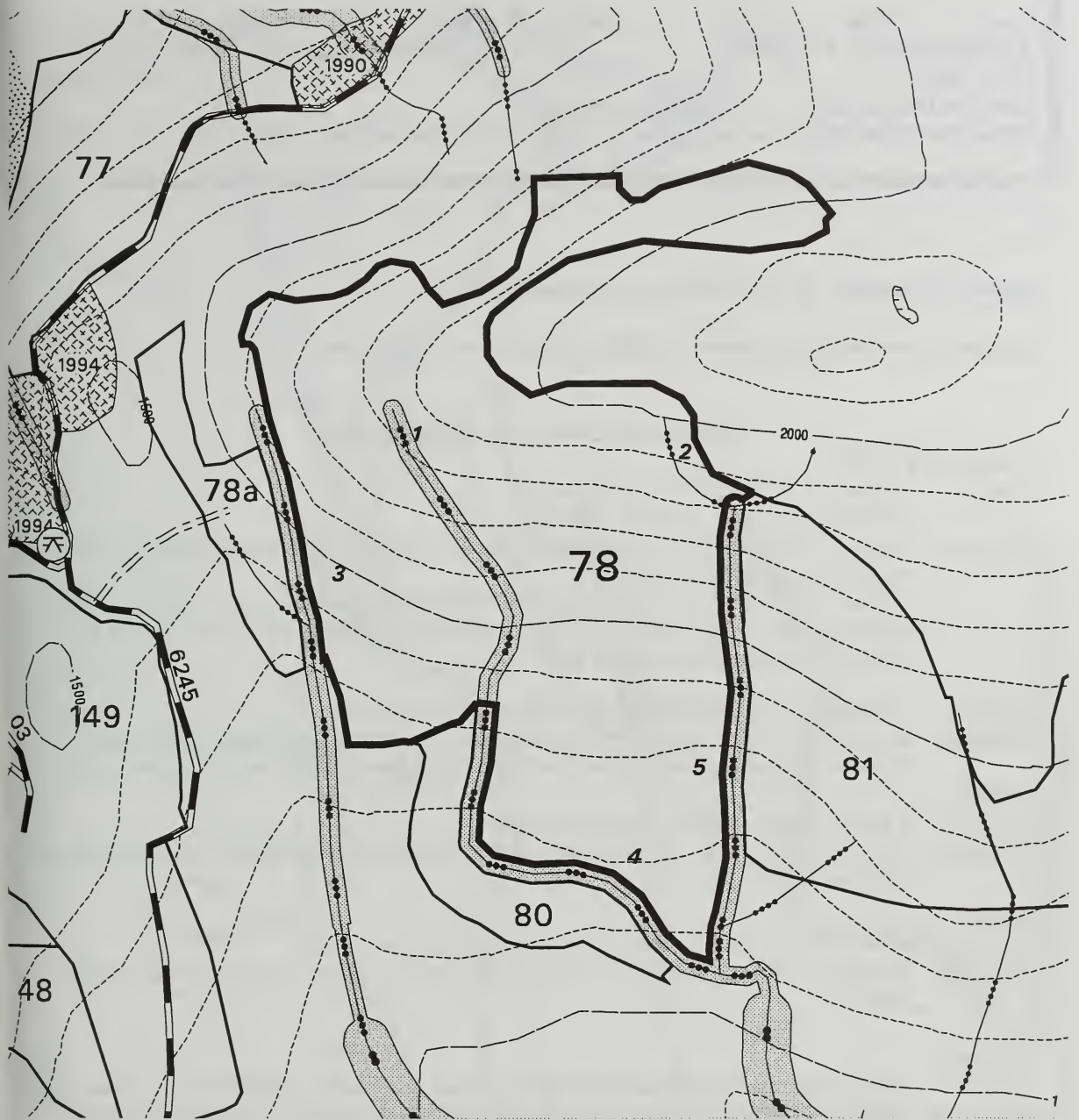
Recreation

Concern: This unit would be visible from a proposed picnic site at the junction of Roads 6245 and 40003.
Mitigation: The high amount of tree retention will lessen the visual impacts.

Transportation

Concern: The unit is not accessible by road due to steep slopes.
Mitigation: Use helicopter logging to access the unit.

Woodpecker Unit 78 Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers



Proposed Dispersed Picnic Site



Proposed Dispersed Camp Site



Existing Picnic Site



Existing Turnout with Camp Site



Scale is 1 inch = 660 feet

Woodpecker Project Area Unit Card Narrative

Unit #: **78a** Unit Size : **9 acres** Alternative: **2,3,4,5,6**
Aerial Photo: **1998 1798-237** Volume strata: **9 acres high**
VCU: **452** **0 acres medium**
Land Use Designation: **Scenic Viewshed**
Within Inventoried Roadless Area? **No** Estimated timber volume: **190 mbf** **Alts. 2,3,4,5,6**

Harvest Treatment: 20-30% retention, leave trees in clumps

Logging/Transportation Systems: Cable yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC6

Stream 2 is Class III, Channel Type HC6

Mitigation: *Stream 1:* Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding where feasible.

Stream 2: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.

Concern: A temporary road provides access to the middle of the unit.

Mitigation: Remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows.

Mitigation: Retention of at least 20% of the stand and the unit size will meet the Partial Retention VQO.

Wetlands

Concern: Entire unit is classed as muskeg/forested wetland or forested upland/wetland mosaic.

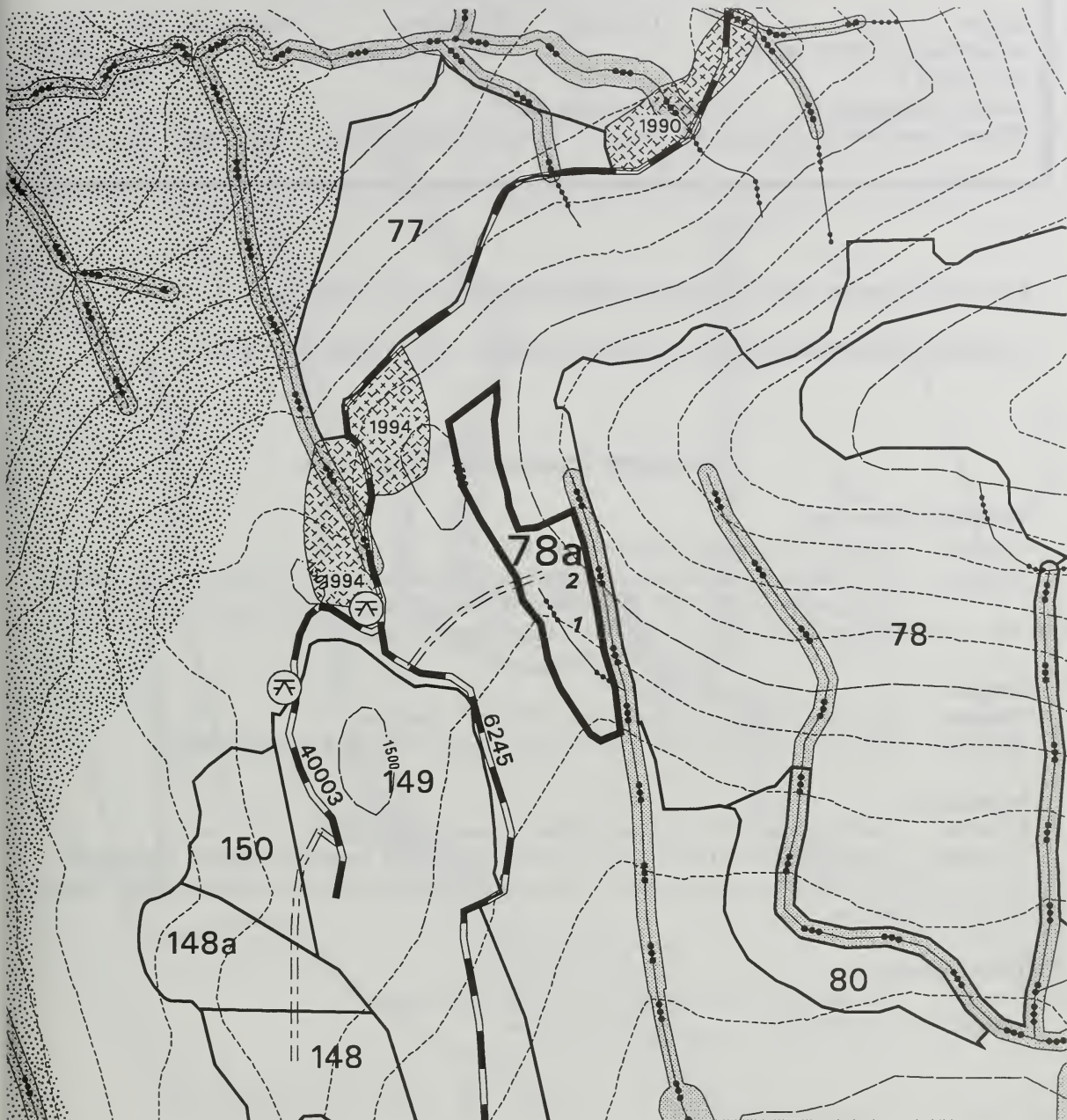
Mitigation: Avoid areas of muskeg, where practicable. Achieve suspension to minimize damage.

Recreation

Concern: This unit would be visible from the proposed picnic site at the junction of Roads 6245 and 40003.

Mitigation: The high amount of tree retention will lessen the visual impacts.

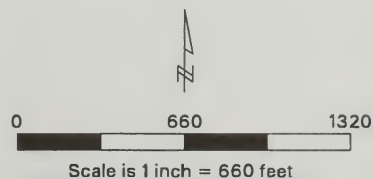
Woodpecker Unit 78a Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	80	Unit Size :	9 acres	Alternative:	4,5
Aerial Photo:	1998 1798- 237	Volume strata:	3	acres high	
VCU:	452		6	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	50	mbf	Alts. 4,5

Harvest Treatment: 75% retention, remove trees in 2-acre or less openings

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6245.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC6

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows.

Mitigation: Retention of at least 75% of the stand will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted.

Transportation

Concern: The unit is not accessible by road due to steep slopes.

Mitigation: Use helicopter logging to access the unit.

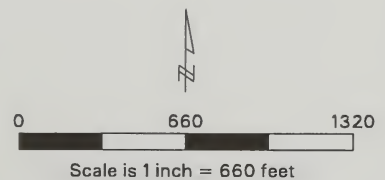
Woodpecker Unit 80 Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	81	Unit Size :	34 acres	Alternative:	4,5
Aerial Photo:	1998 1798-237	Volume strata:	23	acres high	
VCU:	452		11	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	150 mbf	Alts. 4,5	

Harvest Treatment: 75% retention, remove trees in 2-acre or less openings

Logging/Transportation Systems: Helicopter yarding. Use landings on existing Road 6245.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC6

Streams 2 and 3 are Class IV, Channel Type HC0

Mitigation: *Stream 1:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Streams 2 and 3: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows.

Mitigation: Retention of 75% of the stand will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted for removal.

Wetlands

Concern: There are 3 acres of forested wetland in the northwest corner.

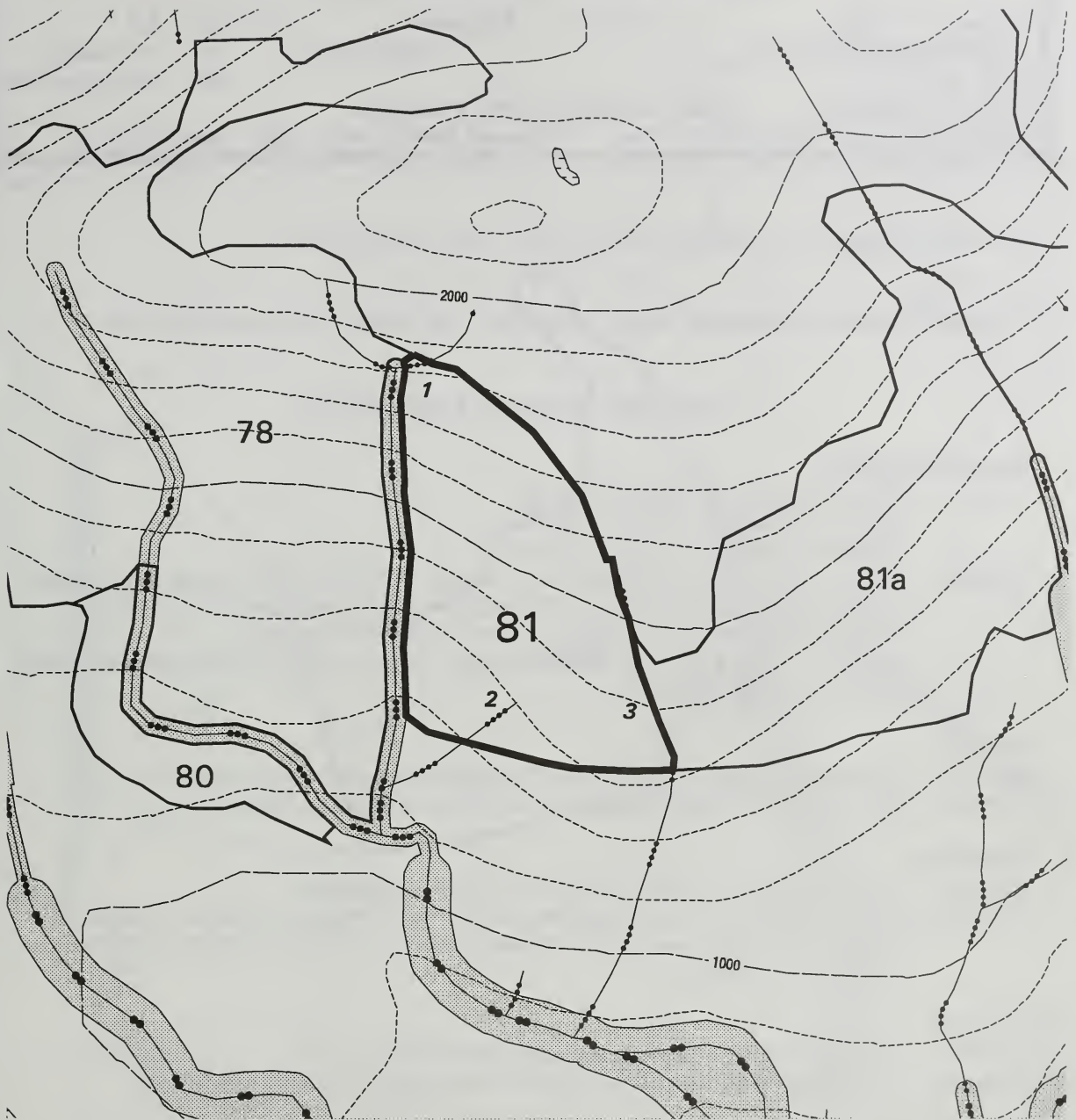
Mitigation: Avoid this area during layout if the area is unsuitable for timber production.

Transportation

Concern: The unit is not accessible by road due to steep slopes.

Mitigation: Use helicopter logging to access the unit.

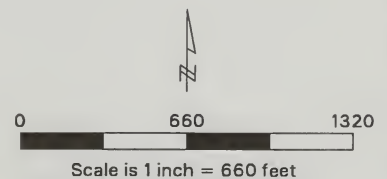
Woodpecker Unit 81 Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	81a	Unit Size :	53 acres	Alternative:	4,5
Aerial Photo:	1999 2398-28	Volume strata:	0	acres high	
VCU:	452		52	acres medium	
Land Use Designation:	Scenic Viewshed, Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	240 mbf	Alts. 4,5	

Harvest Treatment: 75% retention, remove trees in 2-acre or less openings

Logging/Transportation Systems: Helicopter yarding. Use landings on existing Road 6245.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC1

Stream 2 is Class IV, Channel Type AF1

Stream 3 is Class IV, Channel Type HC6

Mitigation: *Stream 1:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Stream 2: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Stream 3: Apply BMP 13.16.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows and Crystal Mountain.

Mitigation: Retention of 75% of the stand will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted for removal.

Wetlands

Concern: There are 8 acres of forested wetland in the southeast corner.

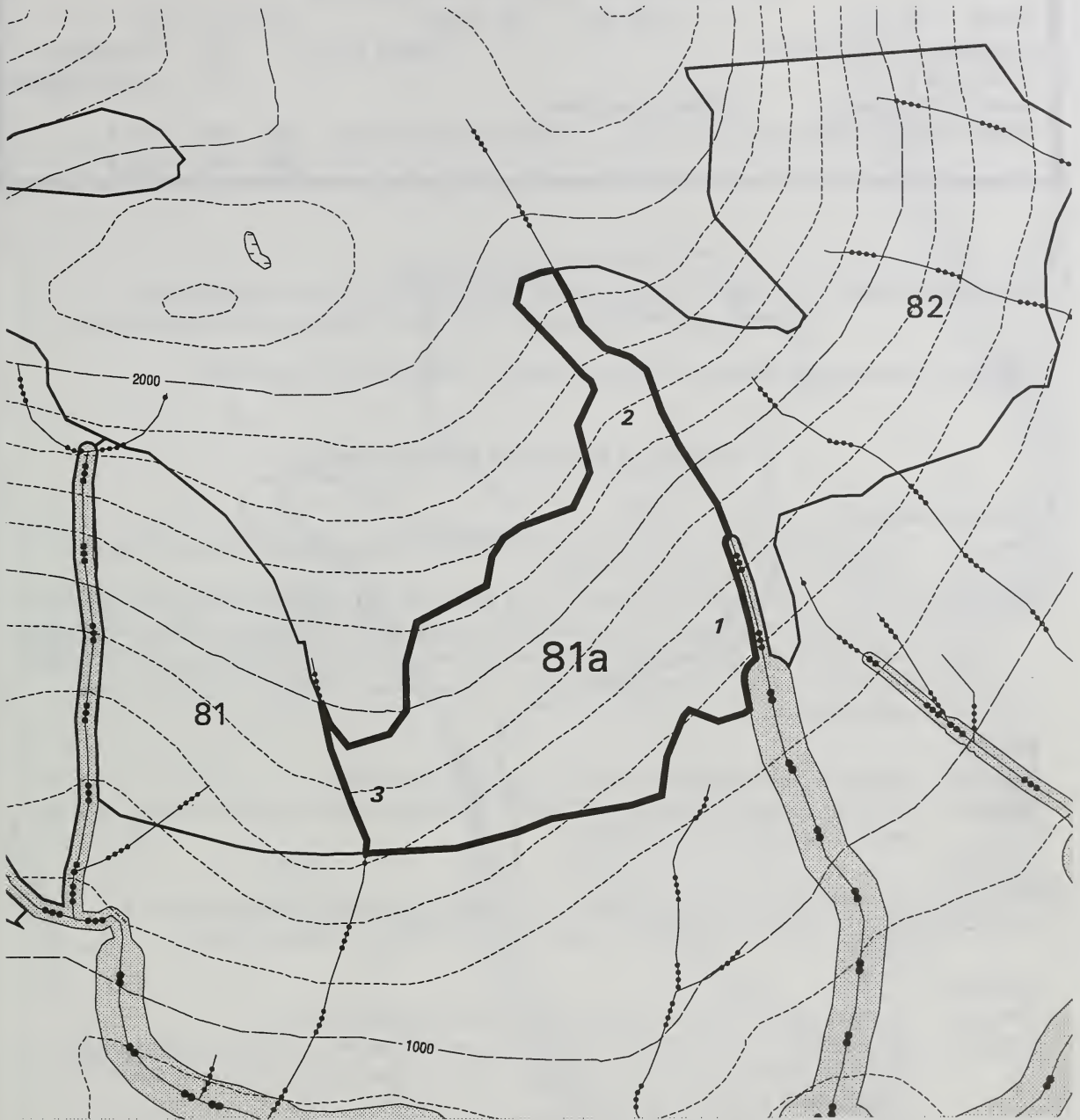
Mitigation: This area will be avoided during layout if unsuitable for timber production.

Transportation

Concern: The unit is not accessible by road due to steep slopes.

Mitigation: Use helicopter logging to access the unit.

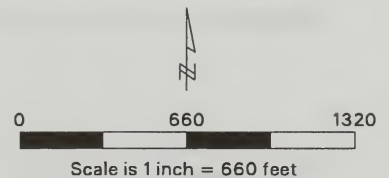
Woodpecker Unit 81a Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	82	Unit Size :	72 acres	Alternative:	4,5
Aerial Photo:	1999 2398-29	Volume strata:	0	acres high	
VCU:	452		72	acres medium	
Land Use Designation:	Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	440 mbf	Alt. 4	
			1390 mbf	Alt. 5	

Harvest Treatment: Alternative 4: 75% retention, remove trees in 2-acre or less openings
Alternative 5: 20-30% retention with trees left either scattered or in clumps

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6284.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type AF1, and flows into a Class III, Channel Type AF1
Streams 2, 3, and 4 are Class IV, HC5

Mitigation: *Stream 1:* No commercial timber harvest within the 140' Riparian Management Area, or within the active portion of the alluvial fan. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Streams 2, 3, and 4: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Wildlife

Concern: There is a great blue heron rookery ½ mile east of the unit.

Mitigation: Prohibit helicopter flights within 1500' of the rookery area from March 1 to July 31 if the rookery continues to remain active.

Scenery

Concern: The north part of the unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 20% of the stand will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Alternative 4: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted for removal.

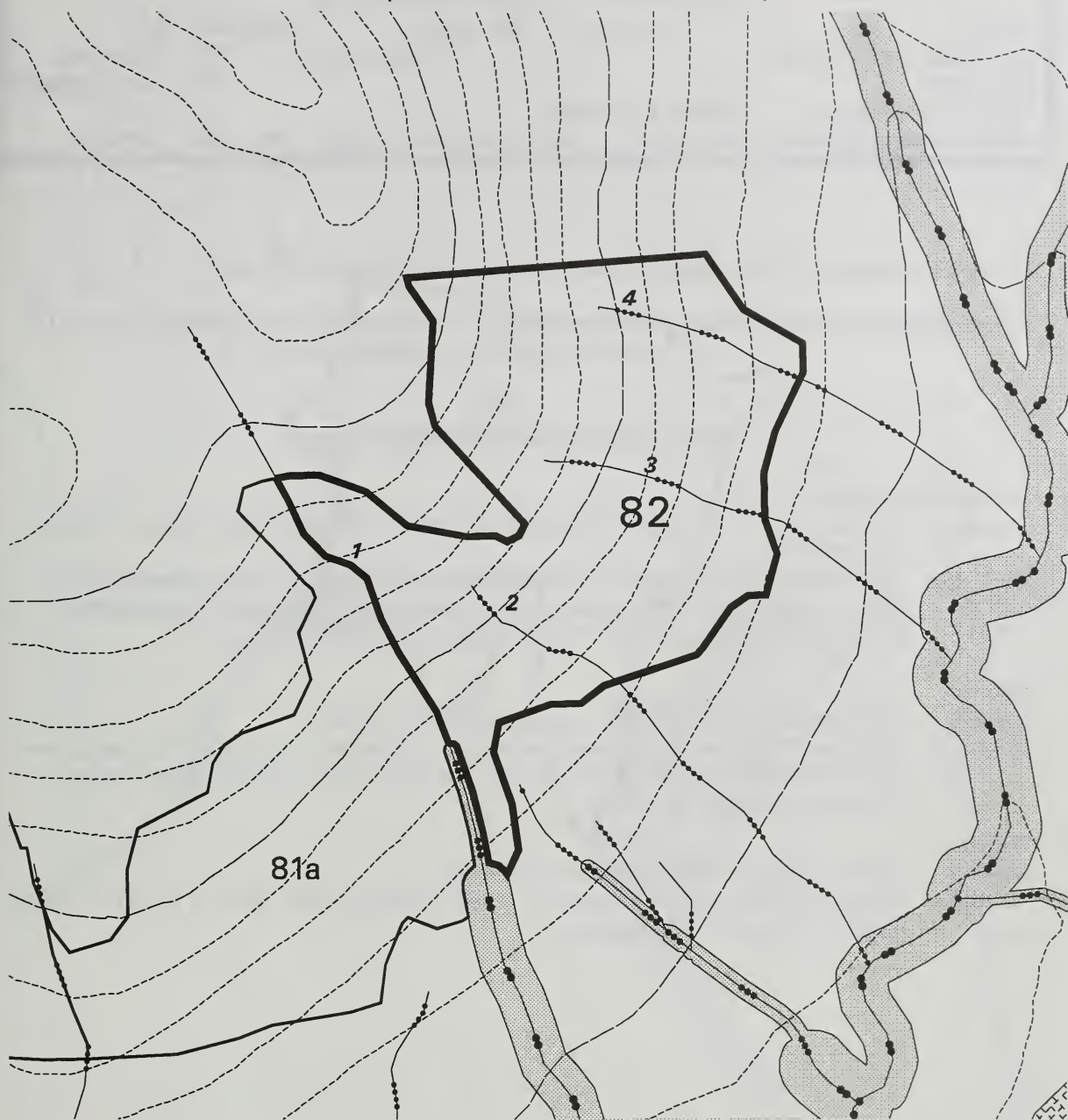
Alternative 5: Retain a 100-foot windfirm buffer of approximately 25 dispersed small diameter trees on the north and northwest boundaries. Select trees with windfirm characteristics and make the unit boundary irregular in shape.

Wetlands

Concern: There are 23 acres of forested wetland along the northern boundary.

Mitigation: Avoid any areas that are unsuitable for timber production.

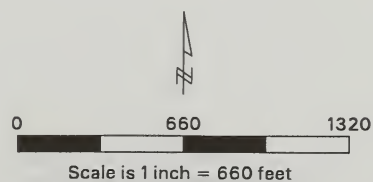
Woodpecker Unit 82 Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	85	Unit Size :	66 acres	Alternative:	4,5
Aerial Photo:	1999 2398-88	Volume strata:	10	acres high	
VCU:	452		55	acres medium	
Land Use Designation:	Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	540	mbf	Alts. 4,5

Harvest Treatment: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6284 (Alt. 4) or on the temporary road that accesses unit 88b (Alt. 5).

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1 and 2 are Class III with a Channel Type HC5 flowing from a Class IV, Channel Type HC5.

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Soils

Concern: The northeastern portion of the unit contains slopes > 72%.

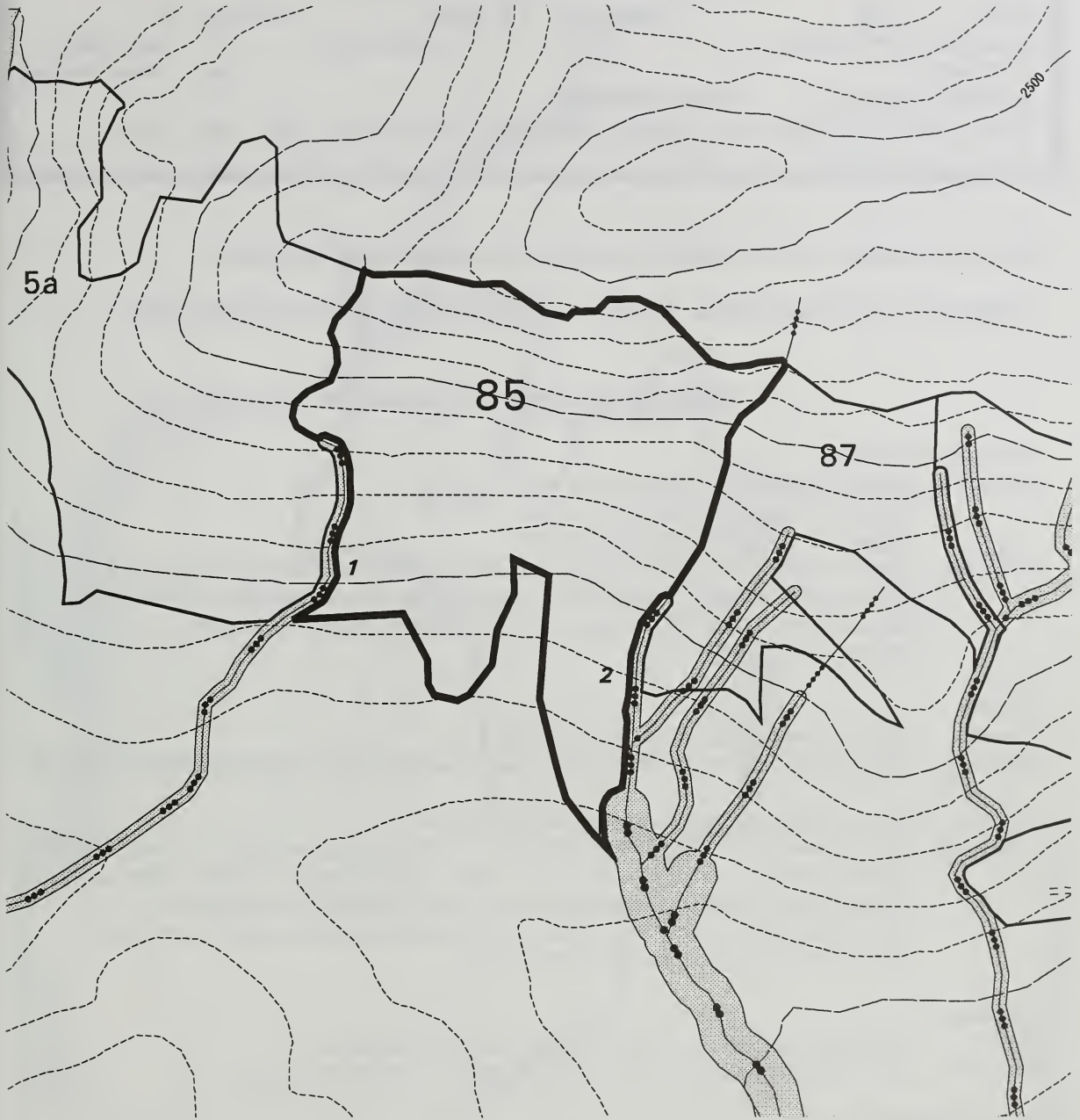
Mitigation: A soil stability investigation found these slopes to be stable and suitable for timber harvest. Leave unmerchantable trees where possible and achieve full suspension when yarding the northeastern portion of the unit.

Wildlife

Concern: There is a great blue heron rookery near the unit.

Mitigation: Prohibit helicopter flights within 1500' of the rookery area from March 1 to July 31 if the rookery continues to remain active.

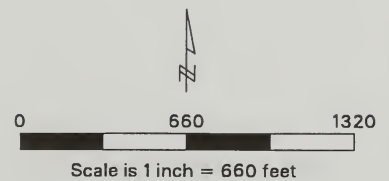
Woodpecker Unit 85 Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	85a	Unit Size :	71 acres	Alternative:	4
Aerial Photo:	1999 2398-29	Volume strata:	5	acres high	
VCU:	452		66	acres medium	
Land Use Designation:	Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	580	mbf	Alt. 4

Harvest Treatment: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Helicopter yarding. Use landings on existing Road 6284

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC6
Stream 2 is Class III, Channel Type HC5
Stream 3 is Class IV, Channel Type HC5

Mitigation: *Streams 1 and 2:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 3: Apply BMP 13.16.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Concern: There is a great blue heron rookery west of the unit.

Mitigation: Prohibit helicopter flights within 1500' of the rookery area from March 1 to July 31 if the rookery continues to remain active. The rookery was buffered with a 600' buffer according to Forest Plan standards and guidelines, and the unit boundary was adjusted to accommodate this buffer. This buffer may be modified if new nests are found or the rookery is reported to be inactive for two years.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

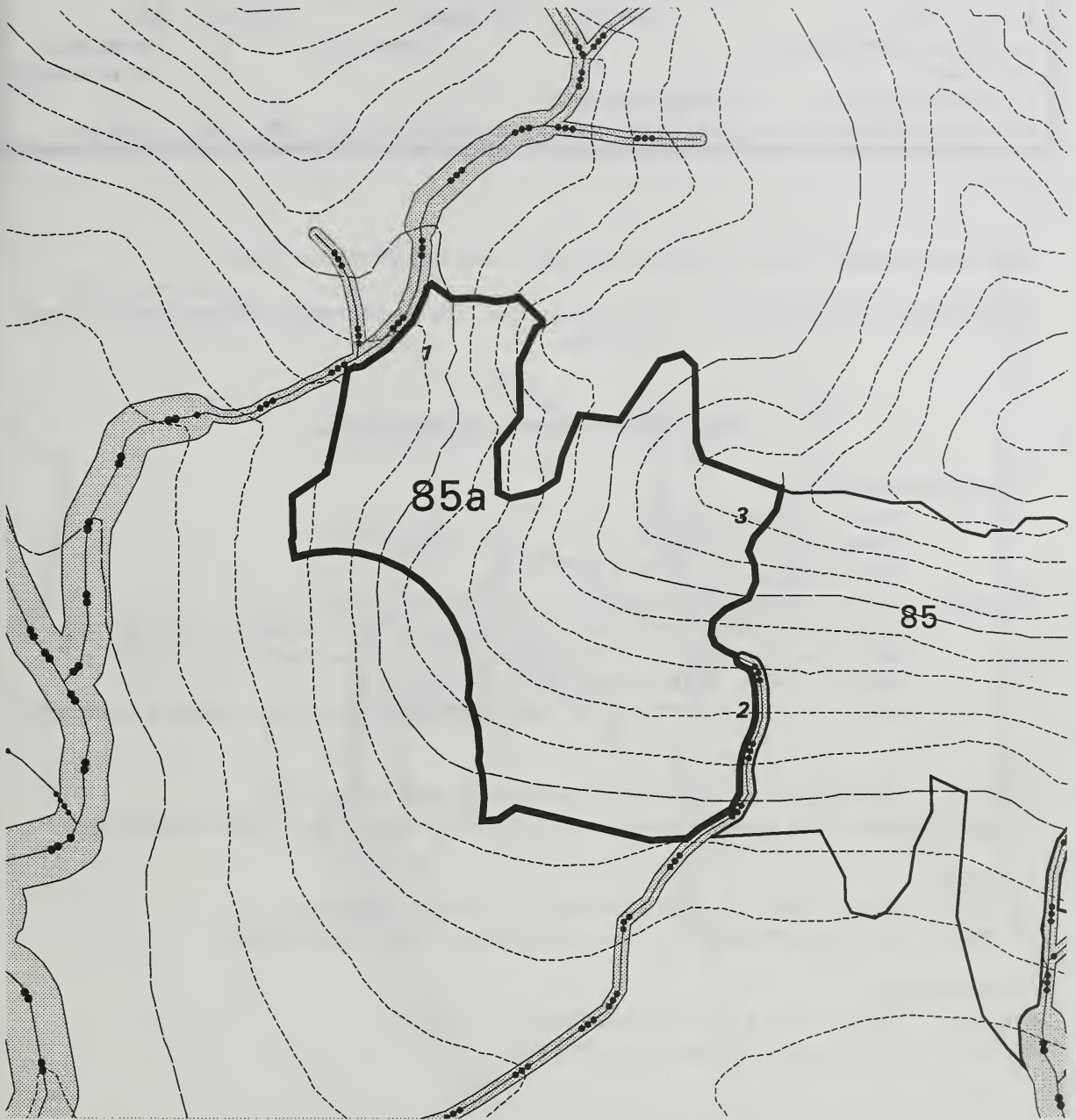
Mitigation: Trees displaying windfirm characteristics will be favored for retention.

Transportation

Concern: The unit is not accessible by road due to steep slopes.

Mitigation: Use helicopter logging to access the unit.

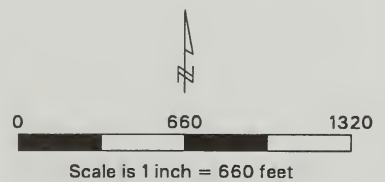
Woodpecker Unit 85a Alternative 4



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	87	Unit Size :	27 acres	Alternative:	4,5
Aerial Photo:	1999 2398-88	Volume strata:	9	acres high	
VCU:	452		17	acres medium	
Land Use Designation:	Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	160	mbf	Alts. 4,5

Harvest Treatment: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Helicopter yarding. Use landings on the proposed temporary road in unit 88b.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC5
Streams 2, 3, 5 and 6 are Class III and a Channel Type HC5
Stream 4 is Class IV, Channel Type HC0

Mitigation: *Stream 1:* Apply BMP 13.16 (Stream Channel Protection).
Streams 2,3,5 and 6: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.
Stream 4: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Soils

Concern: The northwestern unit boundary is adjacent to steep slopes > 72%.
Mitigation: Check slope stability during layout and modify boundary to avoid any unstable slopes.

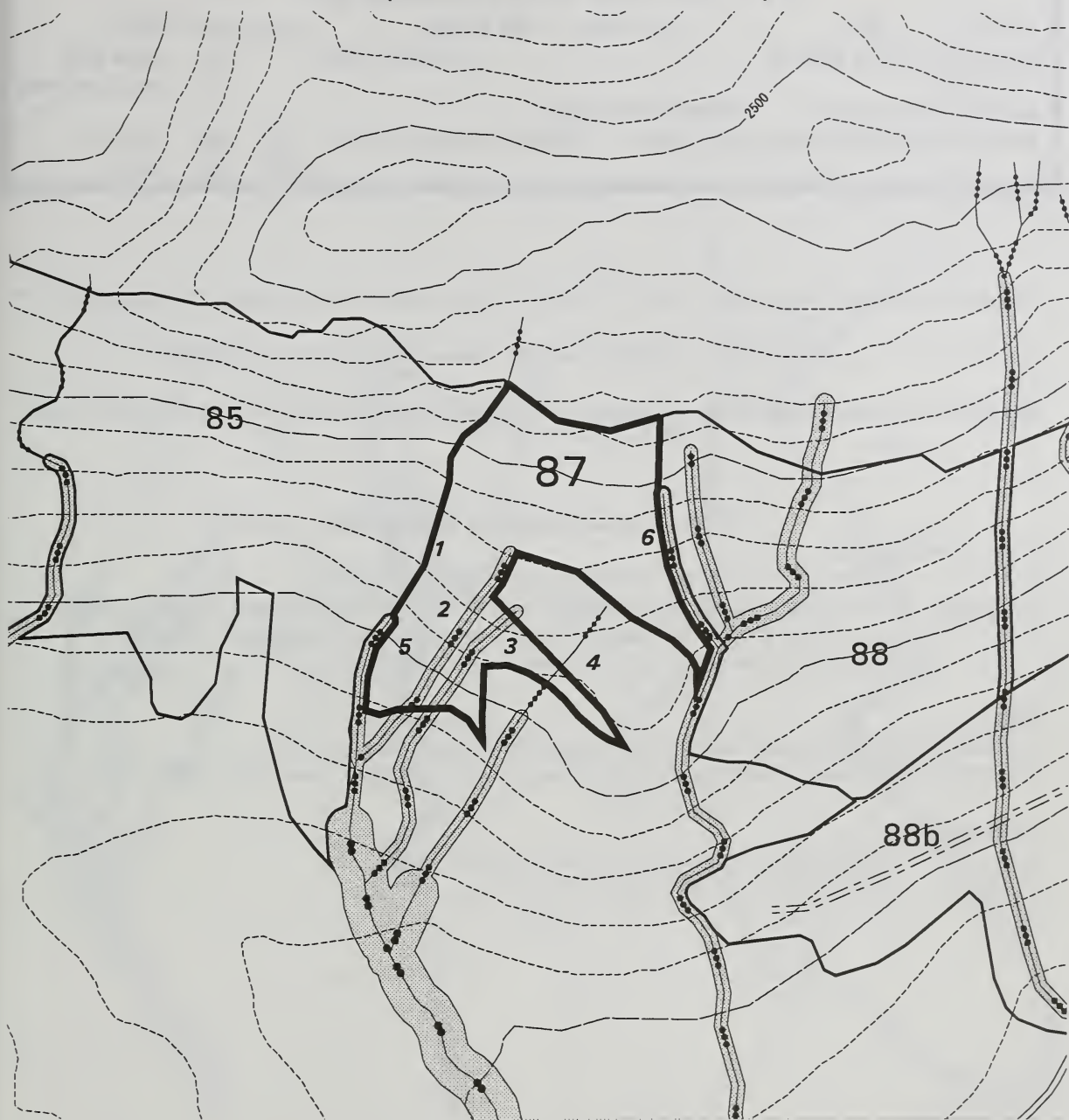
Vegetation

Concern: Location makes the stand susceptible to potential windthrow.
Mitigation: Trees displaying windfirm characteristics will be favored for retention.

Transportation

Concern: The unit is not accessible by road due to steep slopes.
Mitigation: Use helicopter logging to access the unit.

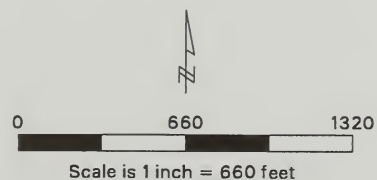
Woodpecker Unit 87 Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	88	Unit Size :	45 acres	Alternative:	4,5,6
Aerial Photo:	1999 2398-88			Volume strata:	45 acres high
VCU:	452				0 acres medium
Land Use Designation:	Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	470 mbf	Alt. 4,6	
			1110 mbf	Alt. 5	

Harvest Treatment: Alternatives 4 and 6: 50-66% retention, remove trees dispersed throughout the unit

Alternative 5: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Helicopter yarding. Use landings on the proposed temporary road in unit 88b.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1, 2, 3, and 4 are Class III and Channel Type HC5.

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Soils

Concern: The north central unit boundary is adjacent to steep slopes > 72%.

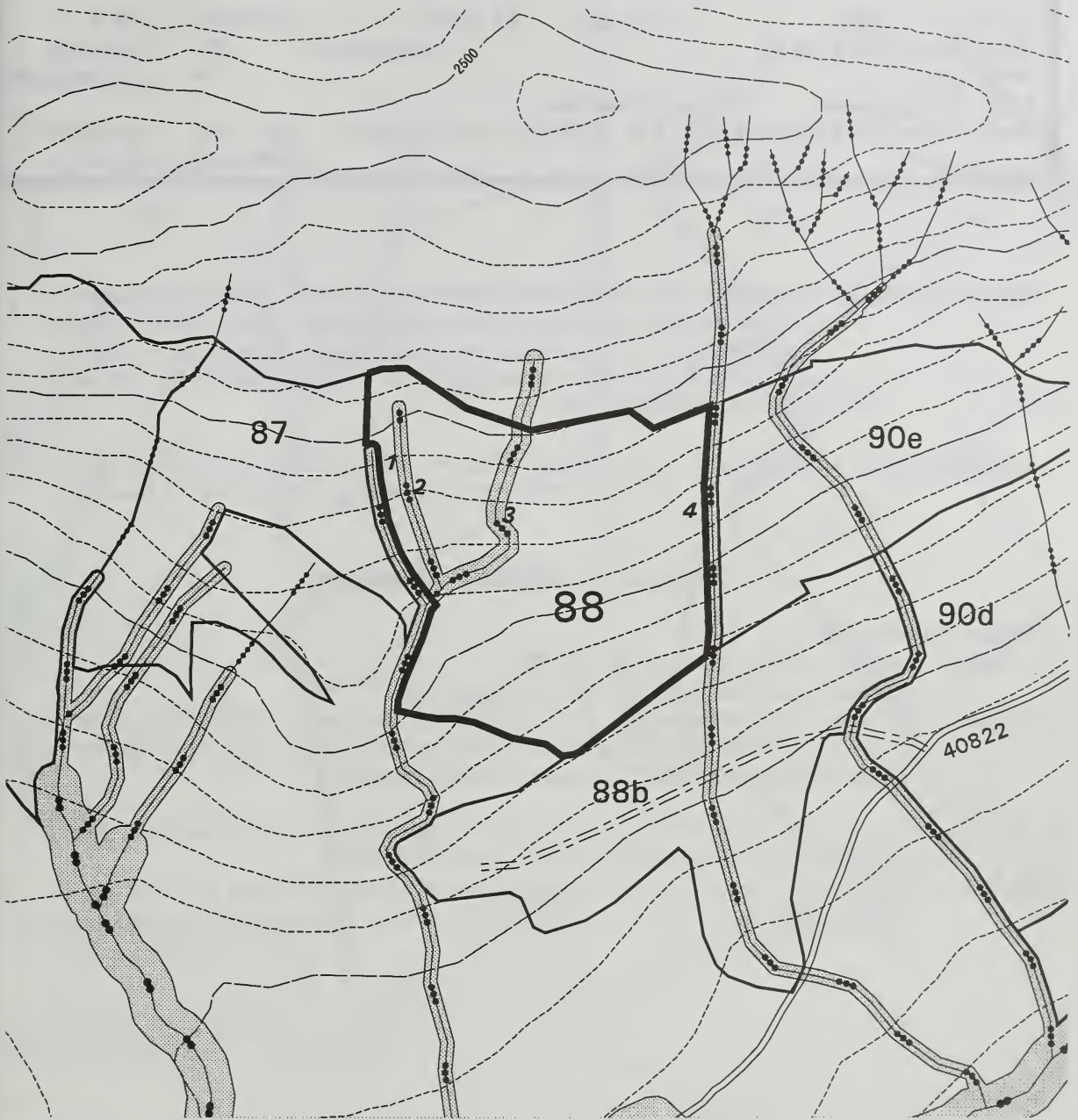
Mitigation: Check slope stability during layout and modify boundary to avoid any unstable slopes.

Transportation

Concern: The unit is not accessible by road due to steep slopes.

Mitigation: Use helicopter logging to access the unit.

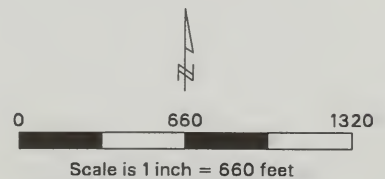
Woodpecker Unit 88 Alternative 4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	88b	Unit Size :	42 acres	Alternative:	2,4,5,6
Aerial Photo:	1999 2398-88	Volume strata:	42	acres high	
VCU:	452		0	acres medium	
Land Use Designation:	Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	450 mbf	Alts. 2,4,6	
			1050 mbf	Alt. 5	

Harvest Treatment: Alternatives 2 and 6: 50-66% retention, remove trees in 2-acre or less corridors north of the road, remove trees either in clumps or dispersed south of the road
Alternative 4: 50-66% retention, remove trees dispersed throughout the unit
Alternative 5: 20-30% retention, leave trees in clumps north of the road and scattered south of the road

Logging/Transportation Systems: Alternatives 2, 5, and 6: Cable yarding / one temporary road
Alternative 4: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

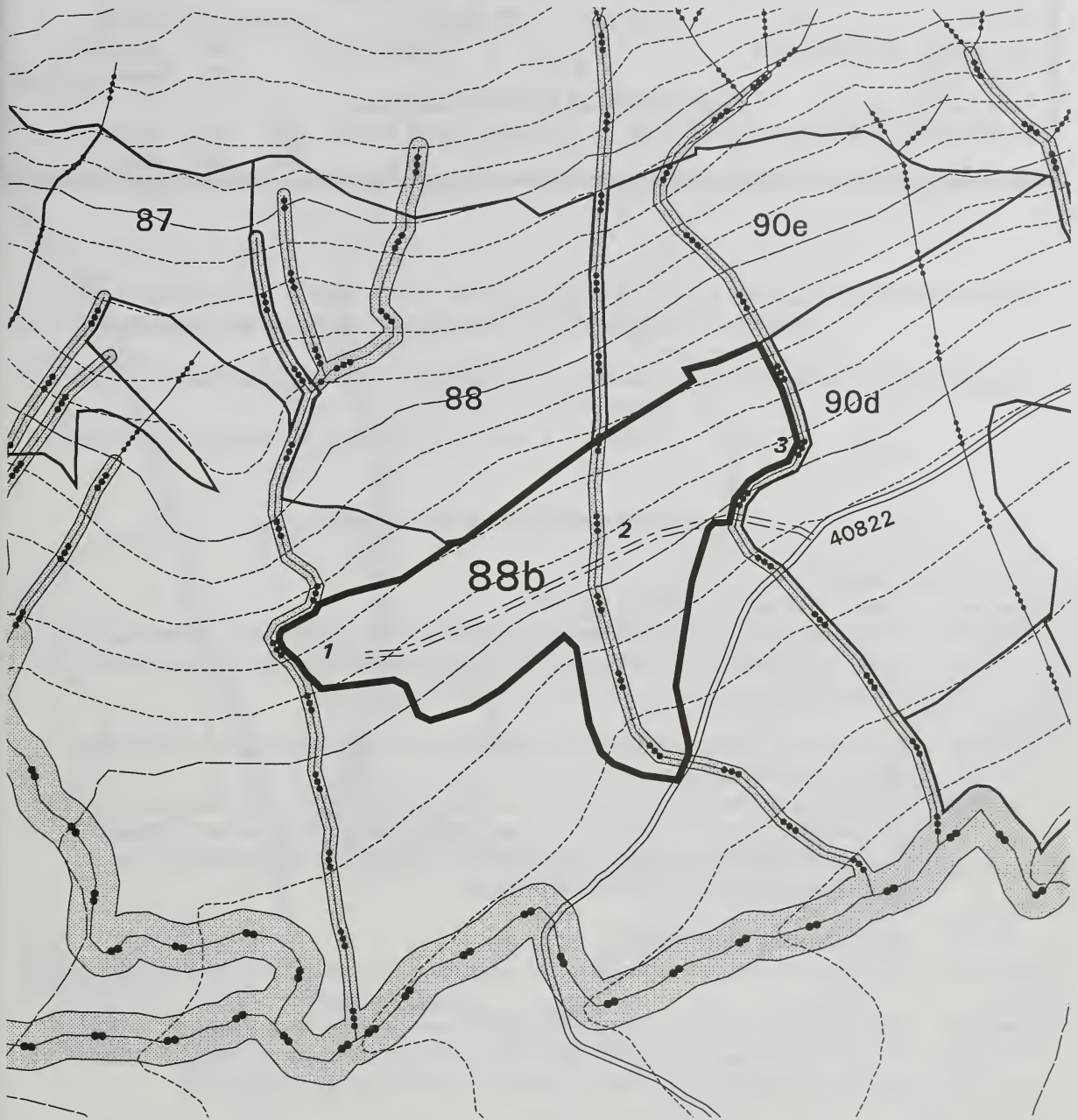
Concern: Stream 1 is Class III, Channel Type HC1
Streams 2 and 3 are Class III, Channel Type HC5

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: A temporary road provides access through the middle of the unit in Alternatives 2 and 5. Road 40822 will remain open to the junction with this road.

Mitigation: Remove all drainage structures from the temporary road after harvest to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

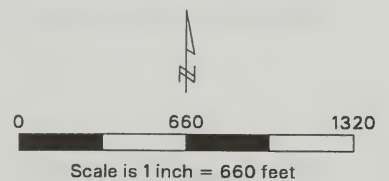
Woodpecker Unit 88b Alternative 2,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	90	Unit Size :	57 acres	Alternative:	2,4,5,6
Aerial Photo:	1999 2398-100	Volume strata:	35	acres high	
VCU:	452		22	acres medium	
Land Use Designation:	Scenic Viewshed, Modified Landscape				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	460	mbf	Alts. 2,4,6
			940	mbf	Alt. 5

Harvest Treatment: Alternatives 2, 4 and 6: 75% retention, remove trees in 2-acre or less openings
Alternative 5: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Alternatives 2, 5, and 6: Cable yarding / two temporary roads, Road 40822
Alternative 4: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC5

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: Alternatives 2, 5 and 6: Proposed Road 40822 runs through this unit. Two temporary roads also access the unit.

Mitigation: Alternatives 2, 5 and 6: After harvest, put Road 40822 into "storage" from the junction of the temporary road into unit 88b to the last landing in this unit. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Concern: Waterfowl nesting may occur near the beaver pond on the southeast edge of the unit.

Mitigation: Timber harvest and other ground disturbing activities will not occur within 330 feet of the pond area from April 1 to July 31 if nesting waterfowl are present.

Concern: The unit contains high value deer winter habitat.

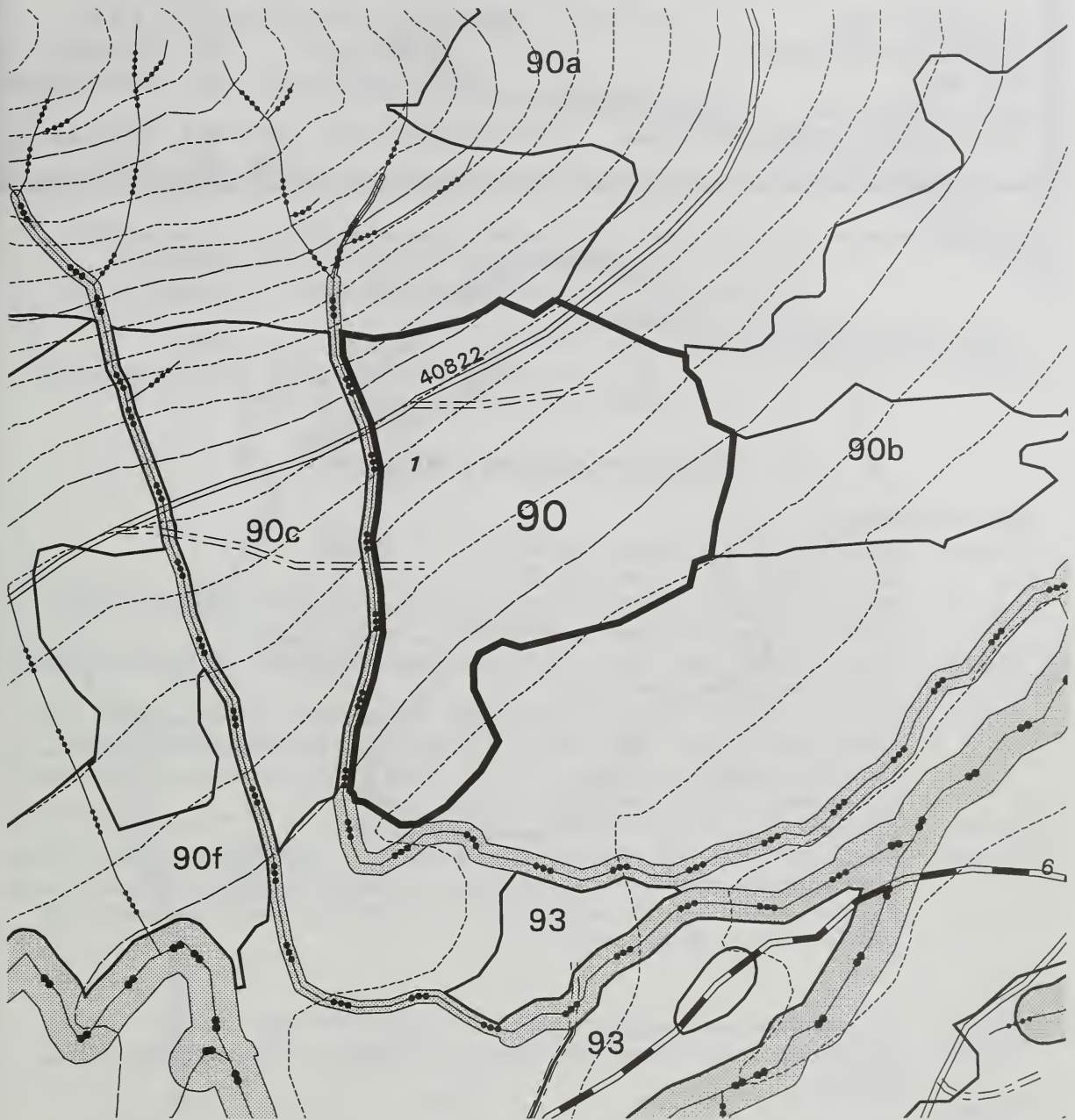
Mitigation: Retention of at least 50% of the stand will maintain winter habitat of a slightly lower quality. The stand will recover to full value in 40 years.

Scenery

Concern: The northern part of the unit is seen from South Blind Slough.

Mitigation: Retention of at least 50% of the stand will meet the Partial Retention VQO.

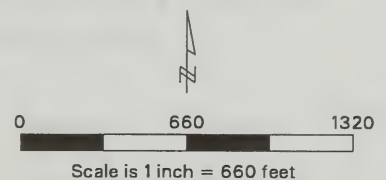
Woodpecker Unit 90 Alternative 2,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 90a	Unit Size : 103 acres	Alternative: 2,4,5,6
Aerial Photo: 1999 2398-101	Volume strata: 38	acres high
VCU: 452	63	acres medium
Land Use Designation: Scenic Viewshed		
Within Inventoried Roadless Area? Yes	Estimated timber volume: 980 mbf	Alts. 2,4,6
	1330 mbf	Alt. 5

Harvest Treatment: Alternative 2 and 6: 75% retention, remove trees in 2-acre or less corridors
 Alternative 4: 75% retention, remove trees in 2-acre or less openings
 Alternative 5: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Alternatives 2 and 6: Cable yarding / Road 40822
 Alternatives 4 and 5: Helicopter yarding. Use landings on Road 40822 (Alt. 5) or on Road 6282 (Alt. 4).

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC0
 Stream 2 is Class IV, Channel Type HC1
 Stream 3 is Class III, Channel Type HC5 flowing from a Class IV, Channel Type HC5
 Stream 4 is Class III, Channel Type HC0/HC5

Mitigation: *Streams 1 and 2:* Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding where feasible.
Streams 3 and 4: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16. Where possible, leave reserve trees between the two streams at the northeast end of the unit.

Concern: Alternatives 2 and 6: Road 40822 runs through this unit.

Mitigation: Alternatives 2 and 6: After harvest, put Road 40822 into "storage" from the junction of the temporary road into unit 88b to the last landing in this unit. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Soils

Concern: The southwestern unit boundary is adjacent to steep slopes > 72%.

Mitigation: Check slope stability during layout and modify boundary to avoid any unstable slopes.

Wildlife

Concern: The unit contains high value marten habitat.

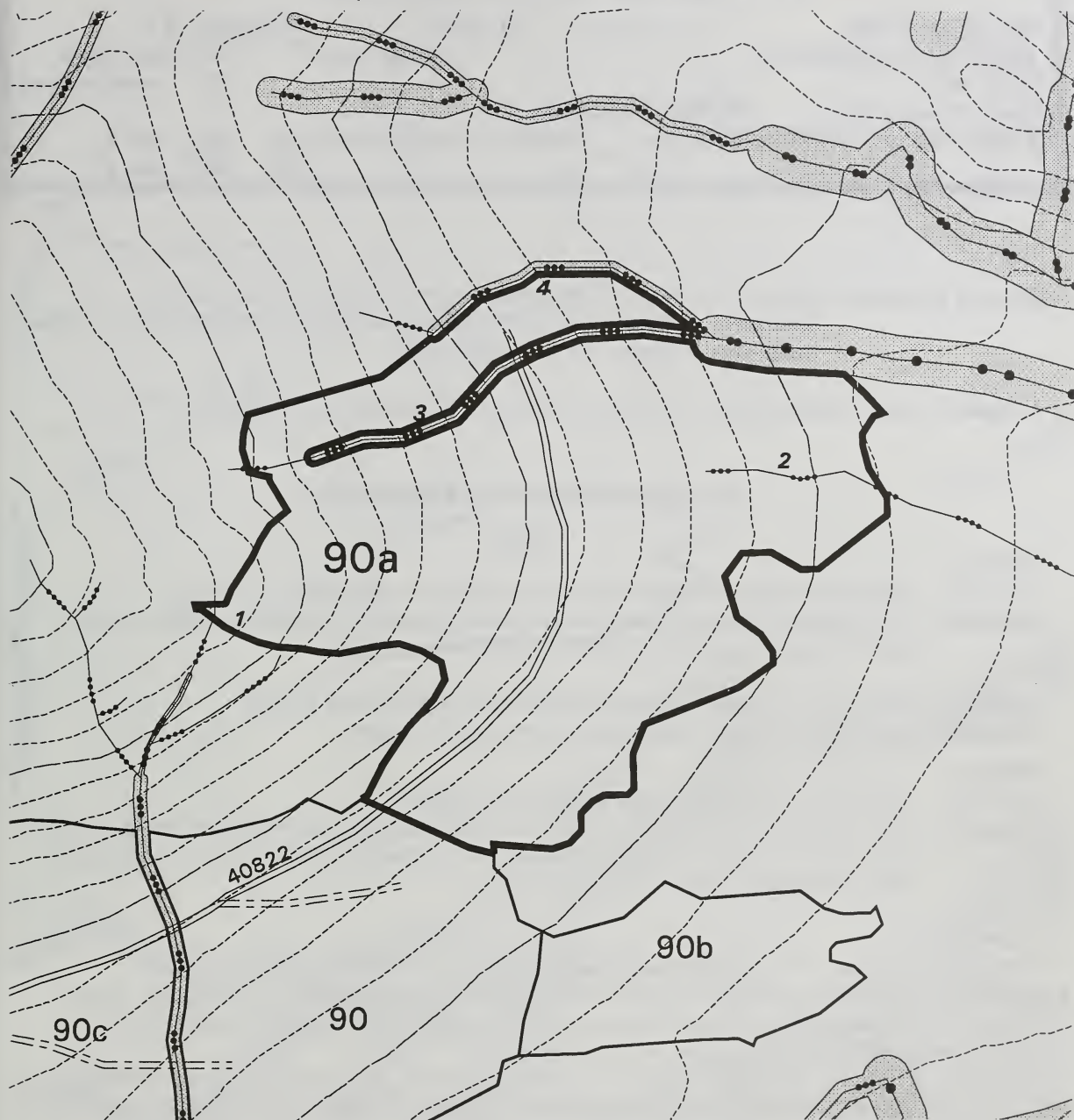
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: Most of the unit is seen from South Blind Slough.

Mitigation: Retention of at least 50% of the stand and screening from the small island in South Blind Slough will meet the Partial Retention VQO. Place corridors to avoid long openings.

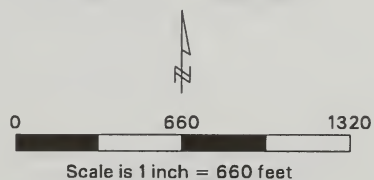
Woodpecker Unit 90a Alternative 2,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	90b	Unit Size :	20 acres	Alternative:	4,5
Aerial Photo:	1999 2398-100	Volume strata:	0	acres high	
VCU:	452		20	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	160	mbf	Alt. 4
			630	mbf	Alt. 5

Harvest Treatment: Alternative 4: 75% retention, remove trees in 2-acre or less openings
Alternative 5: Remove all merchantable trees, leave unmerchantable trees either scattered or in clumps where safely feasible.

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Wildlife

Concern: Waterfowl nesting occurs on the beaver pond on the south edge of the unit.

Mitigation: Avoid timber harvest and other ground disturbing activities within 330 feet of the pond area from April 1 to July 31 if nesting waterfowl are present.

Concern: Alternative 5: Lack of vegetative structure for wildlife after harvest.

Mitigation: Alternative 5: Leave unmerchantable trees where feasible.

Scenery

Concern: The unit is partially seen from South Blind Slough.

Mitigation: Alternative 4: Retention of at least 50% of the stand will meet the Partial Retention VQO.
Alternative 5: Leave unmerchantable trees where feasible. The size of the unit meets the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Alternative 4: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted for removal.

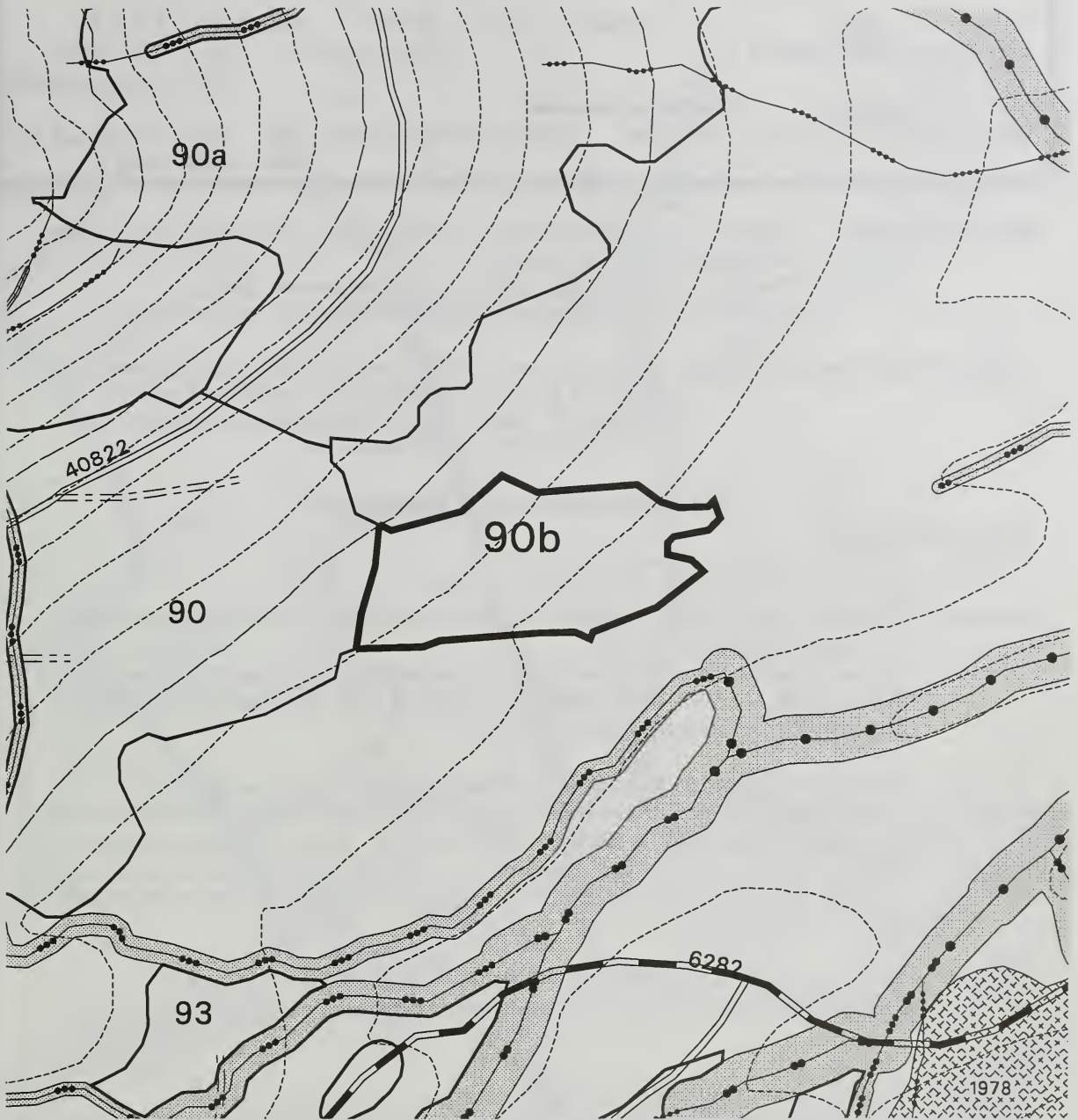
Alternative 5: Retain a 100-foot windfirm buffer of approximately 25 dispersed small diameter trees on the western boundaries. Select trees with windfirm characteristics and make the unit boundary irregular in shape. The northern boundary will be adjacent to muskegs and forested muskeg, which is windfirm.

Transportation

Concern: The unit is not accessible by road due to steep terrain and adverse grades.

Mitigation: Use helicopter logging to access the unit.

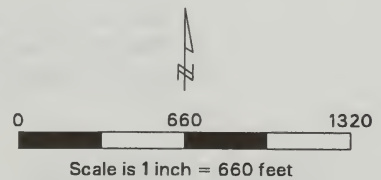
Woodpecker Unit 90b Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 90c	Unit Size : 38 acres	Alternative: 2,4,5,6
Aerial Photo: 1999 2398-100	Volume strata: 26 acres high	
VCU: 452		11 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? Yes	Estimated timber volume: 300 mbf	Alts. 2,4,6
	600 mbf	Alt. 5

Harvest Treatment: Alternatives 2 and 6: 75% retention, remove trees in corridors north of Road 40822 and scattered trees south of the road
 Alternative 4: 75% retention, remove trees in 2-acre or less openings
 Alternative 5: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Alternatives 2 and 6: Cable yarding / Road 40822, a temporary road
 Alternative 4: Helicopter yarding. Use landings on Road 6282.
 Alternative 5: Cable yarding and Helicopter yarding north of Road 40822/ Road 40822, one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC0
 Streams 2 and 3 are Class III, Channel Type HC5

Mitigation: *Stream 1:* Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding where feasible.
Streams 2 and 3: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.

Concern: Alternatives 2,5, and 6: Road 40822 and one temporary road access this unit.

Mitigation: Alternatives 2,5, and 6: After harvest, put Road 40822 into "storage" from the junction of the temporary road into unit 88b to the end of the road. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil. Close the temporary road and remove all drainage structures after harvest.

Soils

Concern: The northern unit boundary is adjacent to steep slopes > 72%.

Mitigation: Check slope stability during layout and modify boundary to avoid any unstable slopes.

Wildlife

Concern: The unit contains high value marten habitat.

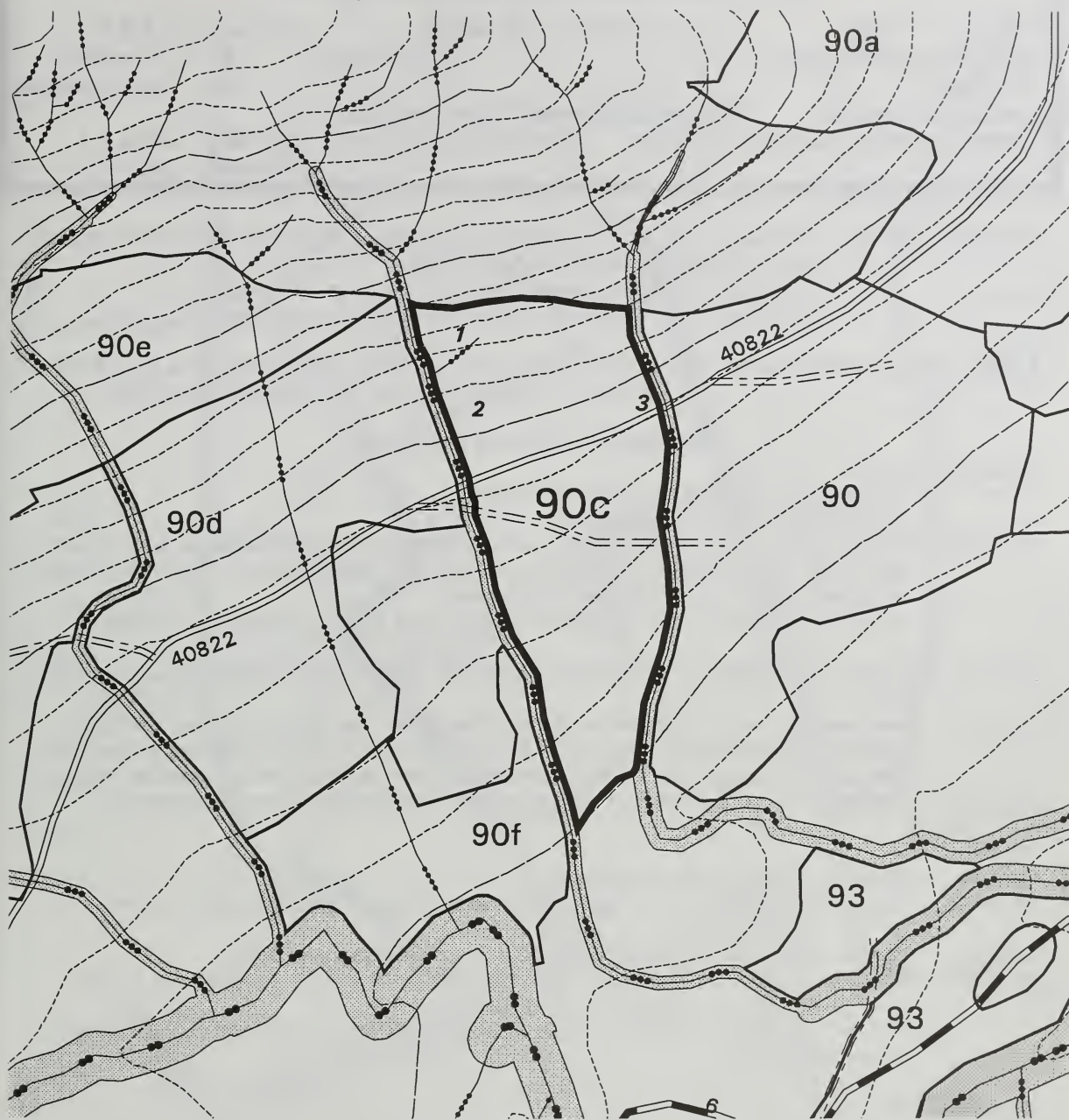
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Alternatives 2, 5 and 6: Trees displaying windfirm characteristics will be favored for retention.
 Alternative 4: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted for removal.

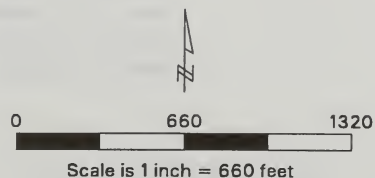
Woodpecker Unit 90c Alternative 2,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 90d	Unit Size : 51 acres	Alternative: 2,4,5,6
Aerial Photo: 1999 2398-88	Volume strata: 21	acres high
VCU: 452		28 acres medium
Land Use Designation: Modified Landscape, Timber Production		
Within Inventoried Roadless Area? Yes	Estimated timber volume: 370 mbf	Alts. 2,4, 6
	1190 mbf	Alt. 5

Harvest Treatment: Alternatives 2 and 6: 75% retention, remove trees in corridors north of Road 40822 and dispersed throughout the unit south of the road
 Alternative 4: 75% retention, remove trees in 2-acre or less openings
 Alternative 5: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Alternatives 2, 5, 6: Cable yarding / one temporary road, Road 40822
 Alternative 4: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1 and 3 are Class III, Channel Type HC5
 Stream 2 is Class IV, Channel Type HC5

Mitigation: *Streams 1 and 3:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Concern: Alternatives 2, 5 and 6: Road 40822 runs through this unit. A temporary road also accesses the unit.

Mitigation: Alternatives 2, 5 and 6: After harvest, put Road 40822 into "storage" from the junction of the temporary road into unit 88b to the end of the road. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil. Close the temporary road and remove all drainage structures after harvest.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Concern: The unit contains high value deer winter habitat in the southern part of the unit.

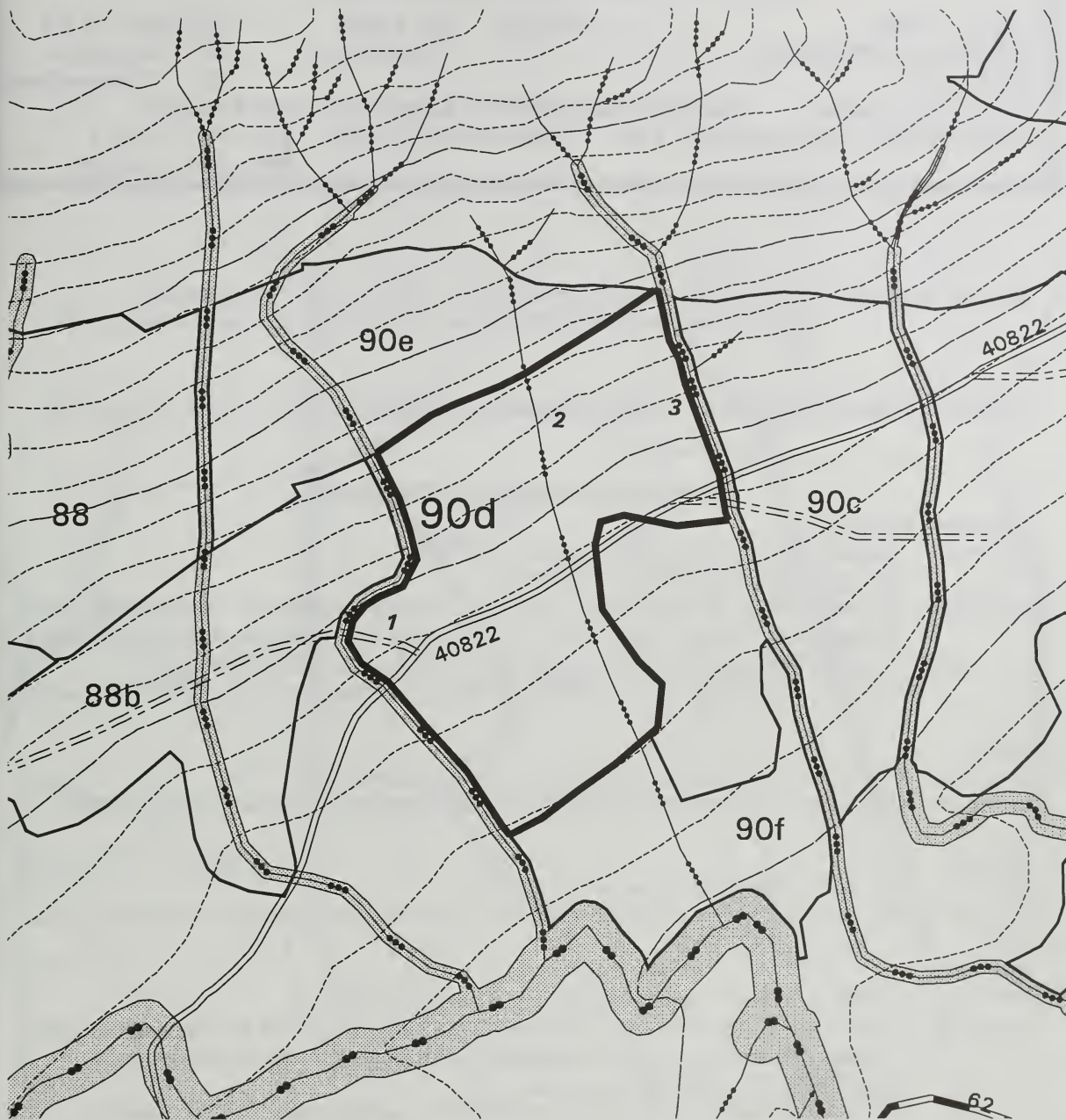
Mitigation: Alternatives 2, 4 and 6: Retention of 75% of the stand will maintain winter habitat of a slightly lower quality. The stand will recover to full value in 40 years.
 Alternative 5: This concern is not mitigated within the unit. Deer winter habitat will be retained in the surrounding area.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Alternatives 2 and 6: Trees displaying windfirm characteristics will be favored for retention.
 Alternative 4: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted for removal.
 Alternative 5: Retain a 100-foot windfirm buffer of approximately 25 dispersed small diameter trees on the western boundaries. Select trees with windfirm characteristics and make the unit boundary irregular in shape. A windfirm buffer will be placed on the Class III stream along the western boundary.

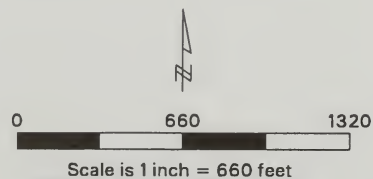
Woodpecker Unit 90d Alternative 2,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	90e	Unit Size :	31 acres	Alternative:	4,5,6
Aerial Photo:	1999 2398-88	Volume strata:	14	acres high	
VCU:	452		16	acres medium	
Land Use Designation:	Scenic Viewshed, Modified Landscape, Timber Production				
Within Inventoried Roadless Area?	Yes	Estimated timber volume:	290	mbf	Alts. 4
			580	mbf	Alt. 5,6

Harvest Treatment: Alternative 4: 75% retention, remove trees in 2-acre or less openings
Alternatives 5 and 6: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 40822 or Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1 and 2 are Class III, Channel Type HC5
Stream 3 is Class IV, Channel Type HC5

Mitigation: *Streams 1 and 2:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 3: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Soils

Concern: The northern unit boundary is adjacent to steep slopes > 72%.

Mitigation: Check slope stability during layout and modify boundary to avoid any unstable slopes.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

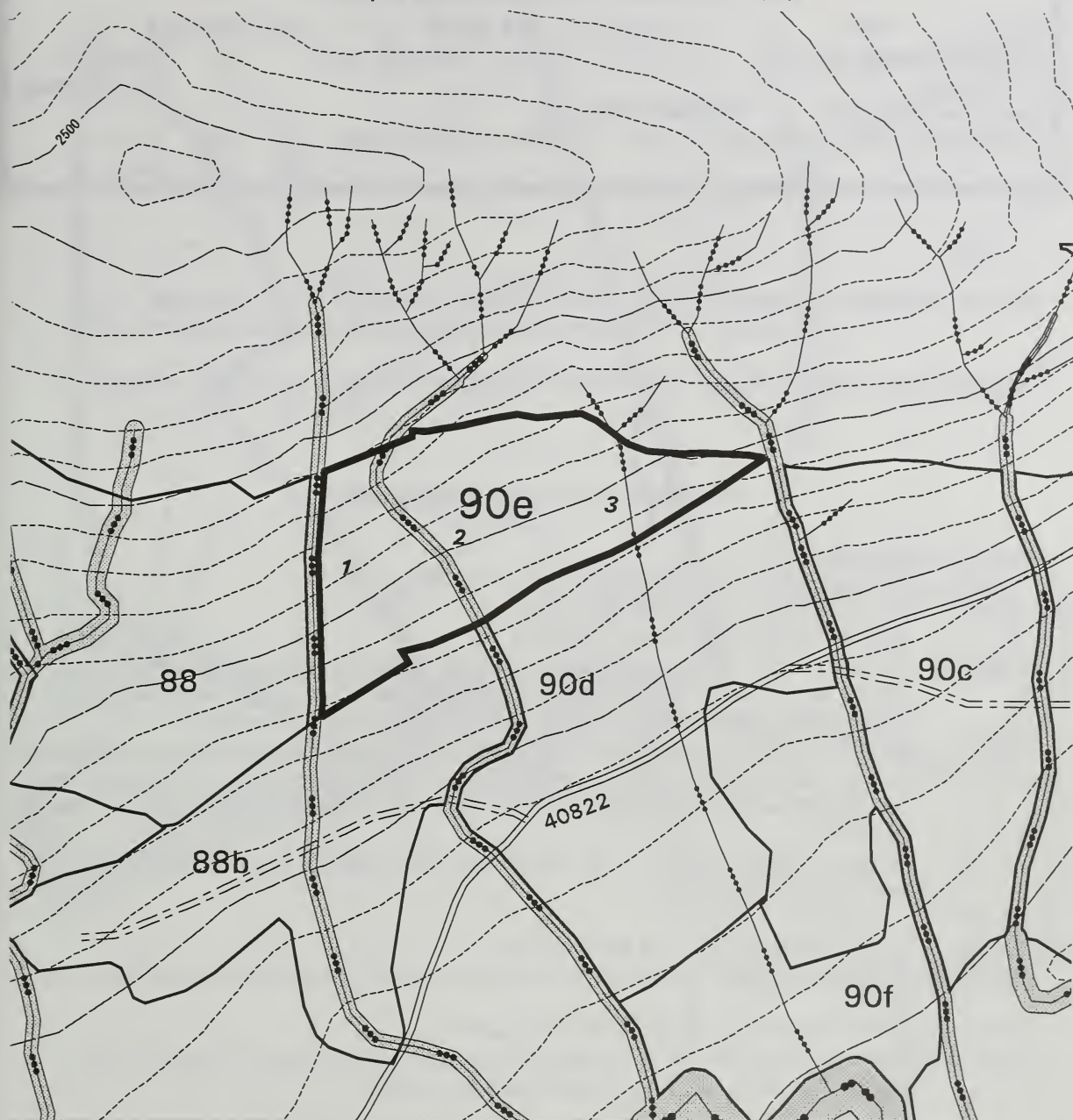
Mitigation: Alternative 4: The boundaries of the small patches removed will be irregularly shaped. Patches of merchantable trees susceptible to blowdown because of decay or dwarf mistletoe will be targeted for removal.
Alternatives 5 and 6: Trees displaying windfirm characteristics will be favored for retention.

Transportation

Concern: The unit is not accessible by road due to steep terrain.

Mitigation: Use helicopter logging to access the unit.

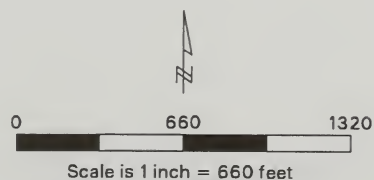
Woodpecker Unit 90e Alternative 4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 90f	Unit Size : 20 acres	Alternative: 4,5
Aerial Photo: 1999 2398-99	Volume strata:	15 acres high
VCU: 452		5 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? Yes	Estimated timber volume:	190 mbf Alt. 4
		390 mbf Alt. 5

Harvest Treatment: Alternative 4: 75% retention, remove trees in 2-acre or less openings
 Alternative 5: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 40822 or Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1 and 4 are Class III, Channel Type HC5
 Stream 2 is Class II, Channel Type HC4
 Stream 3 is Class IV, Channel Type HC5

Mitigation: *Streams 1 and 4:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 100'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 3: Apply BMP 13.16. Use partial suspension and split line yarding and leave reserve trees where feasible.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Concern: The unit contains high value deer winter habitat.

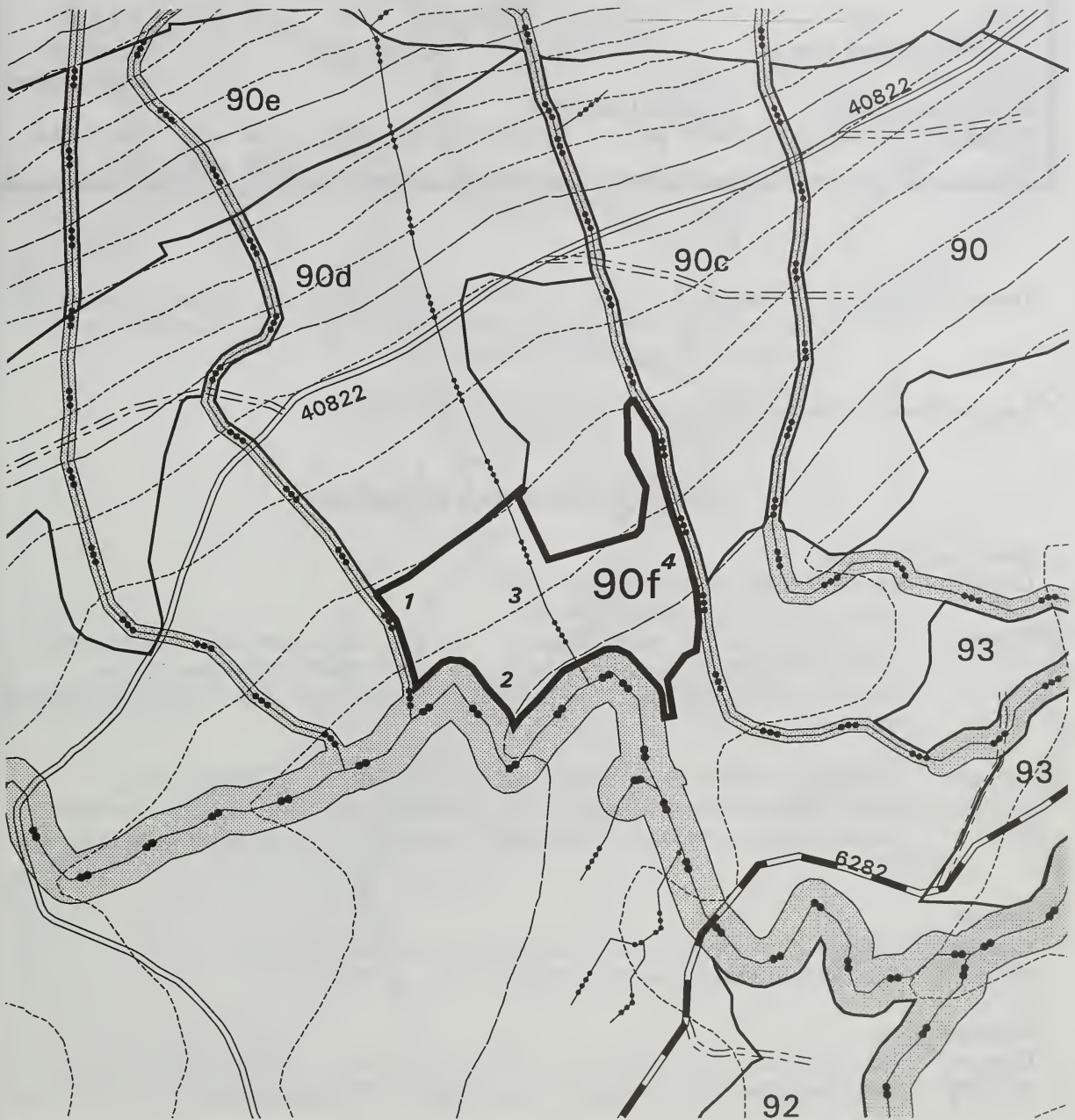
Mitigation: Retention of at least 50% of the stand will maintain winter habitat of a slightly lower quality. The stand will recover to full value in 40 years.

Transportation

Concern: The unit is not accessible by road due to steep terrain.

Mitigation: Use helicopter logging to access the unit.

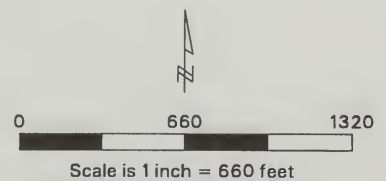
Woodpecker Unit 90f Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 92	Unit Size : 14 acres	Alternative: 2,3,4,5,6
Aerial Photo: 1999 2398-98	Volume strata:	2 acres high
VCU: 452		12 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? No	Estimated timber volume:	240 mbf Alts. 2,3,4,6
		340 mbf Alt. 5

Harvest Treatment: Alternatives 2, 3, 4, and 6: 20-30% retention, leave trees scattered or in clumps
 Alternative 5: Remove all merchantable trees, leave unmerchantable trees scattered or in clumps where safe to do so.

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type HC1
 Stream 2 is Class II, Channel Type HC2

Mitigation: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 100'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: A temporary road from Road 6282 provides access to the unit for shovel yarding.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: Alternative 5: Lack of vegetative structure for wildlife after harvest.

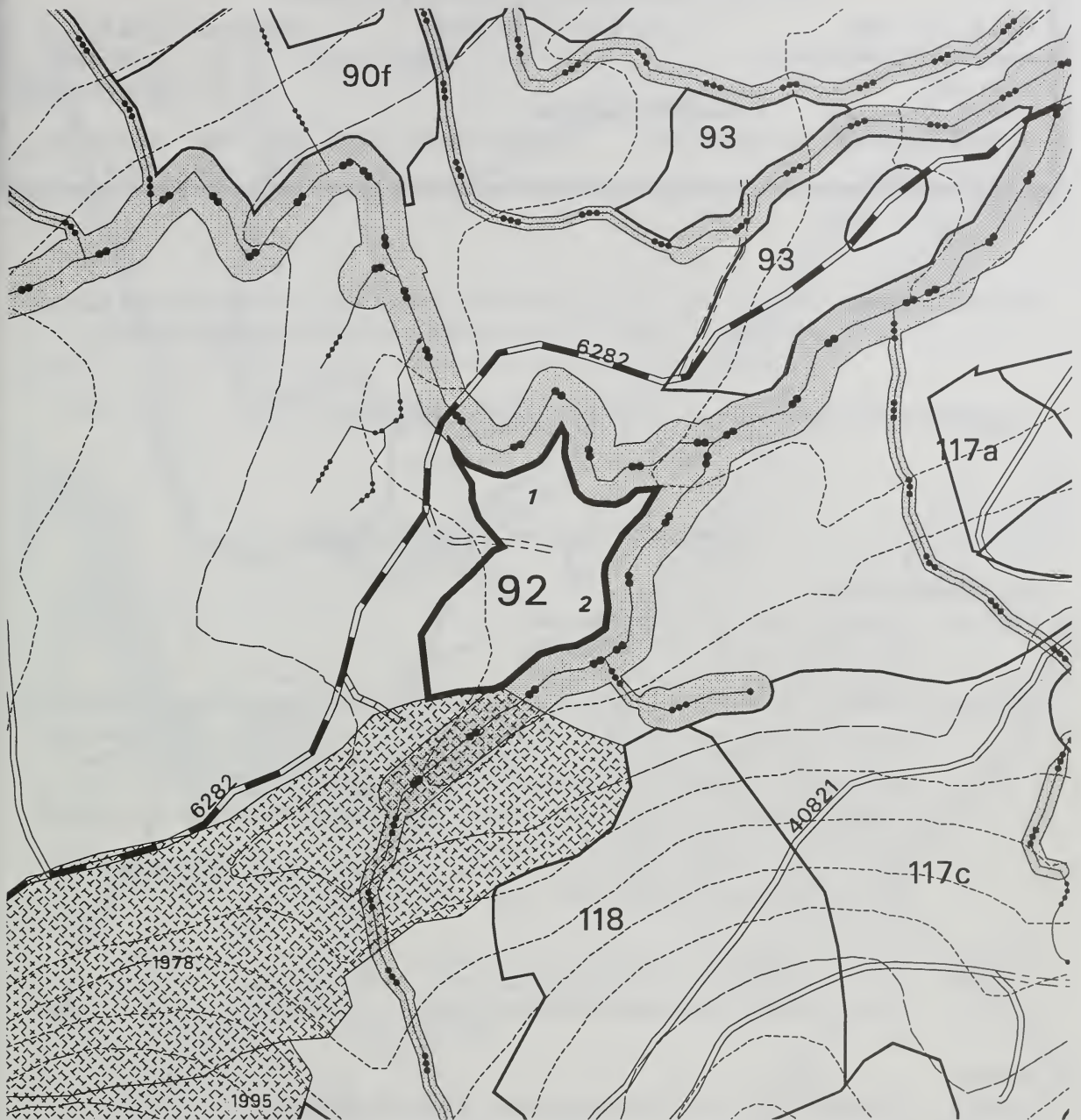
Mitigation: Alternative 5: Leave unmerchantable trees where feasible.

Wetlands

Concern: There are 10 acres of forested wetland within the northern two-thirds of the unit.

Mitigation: Avoid harvesting trees on areas that are unsuitable for timber production.

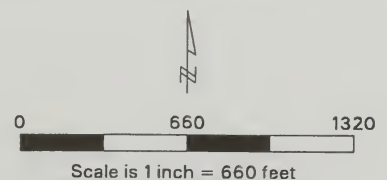
Woodpecker Unit 92 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 93	Unit Size : 24 acres	Alternative: 2,3,4,5,6
Aerial Photo: 1999 2398-99	Volume strata: 10	acres high
VCU: 452		10 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? No	Estimated timber volume: 360 mbf	Alts. 2,3,4,6
	500 mbf	Alt. 5

Harvest Treatment: Alternatives 2, 3, 4, and 6: 20-30% retention, leave trees scattered or in clumps
 Alternative 5: Remove all merchantable trees, leave unmerchantable trees scattered or in clumps where safe to do so.

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type MC2
 Stream 2 is Class III, Channel Type HC3
 Stream 3 is Class III, Channel Type MC1

Mitigation: *Stream 1:* No commercial timber harvest within 100'. No programmed commercial timber harvest within the remainder of the Riparian Management Area, defined as the side slope break. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6, 12.6a, and 13.16.
Stream 3: No programmed commercial timber harvest within the Riparian Management Area, defined as the side slope break. Apply BMPs 12.6, 12.6a, and 13.

Concern: A temporary road from Road 6282 provides access to the unit for shovel yarding.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: Alternative 5: Lack of vegetative structure for wildlife after harvest.

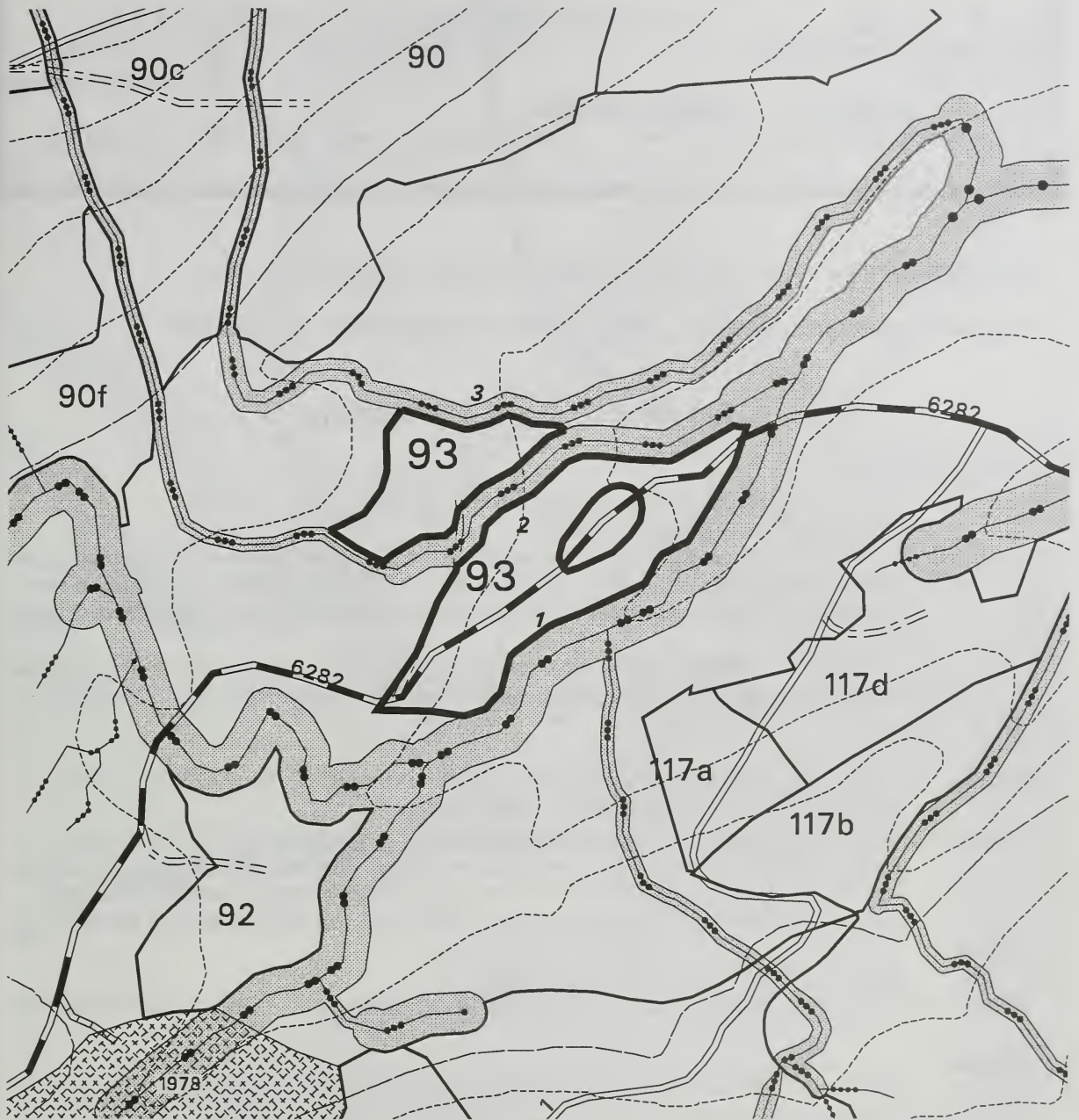
Mitigation: Alternative 5: Leave unmerchantable trees where feasible.

Wetlands

Concern: There are 20 acres of forested wetland within the unit.

Mitigation: Avoid harvesting trees on areas that are unsuitable for timber production.

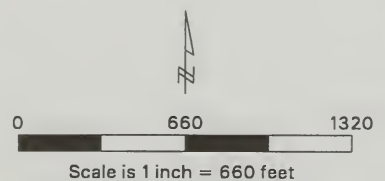
Woodpecker Unit 93 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	98	Unit Size :	18 acres	Alternative:	2,3,4,6
Aerial Photo:	1999 2398-155	Volume strata:	12	acres high	
VCU:	452		6	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	310	mbf	Alts. 2,3,4,6

Harvest Treatment: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Cable yarding / one temporary road and Road 6281

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type HC1/MM1
Stream 2 is Class I, Channel Type HC1

Mitigation: *Stream 1:* No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 120'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 100'. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: A temporary road provides access to this unit from Road 6281. Road 6281 is presently closed to traffic due to alder growth on the roadway.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil. After harvest, close Road 6281 beyond the proposed recreation parking area at MP 0.5, remove all drainage structures past the parking site, and add waterbars as needed.

Wildlife

Concern: The unit contains high value marten habitat.

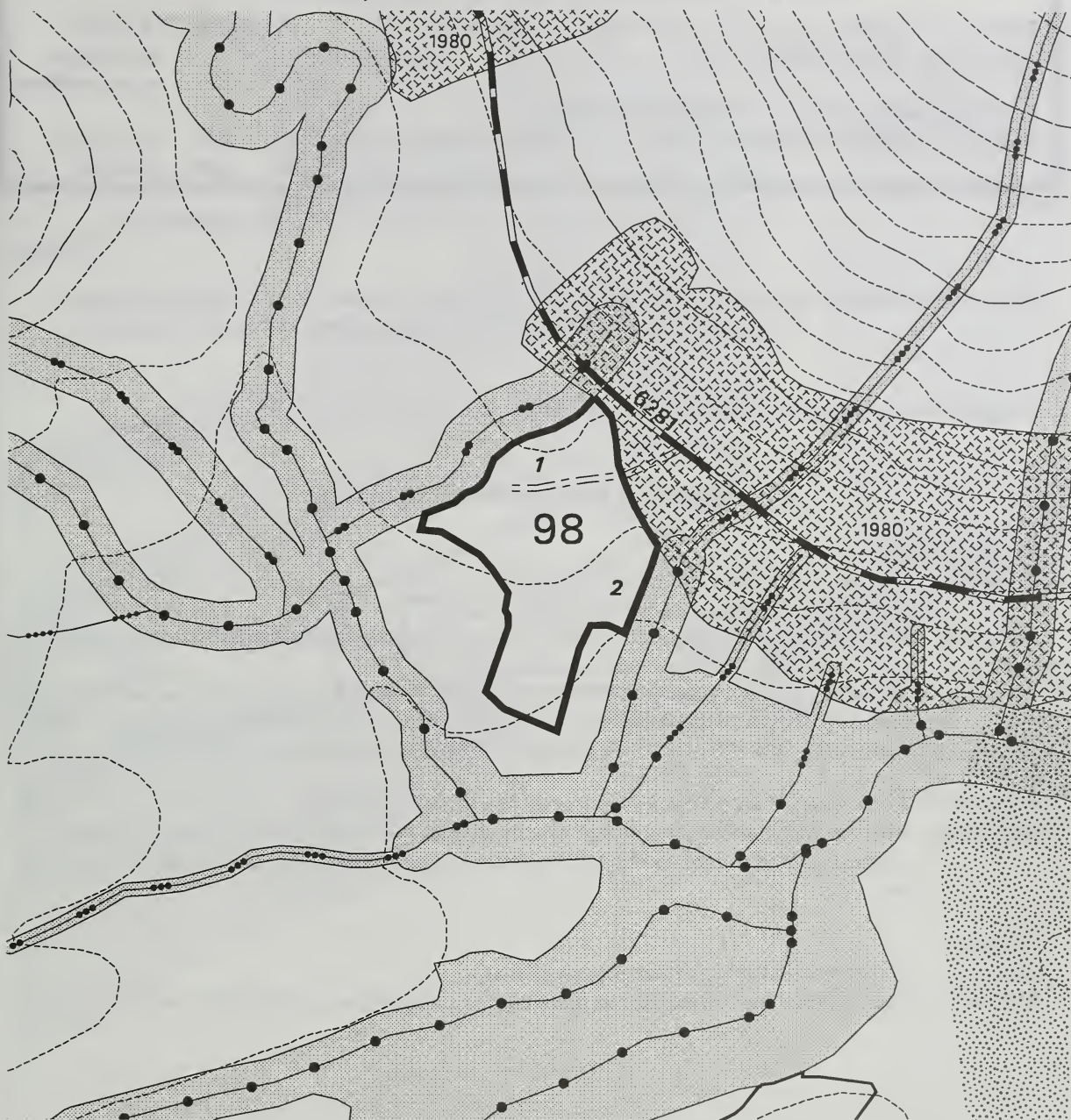
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Wetlands

Concern: There are 9 acres of forested wetland within the southern half of the unit.

Mitigation: Avoid harvesting trees on areas that are unsuitable for timber production.

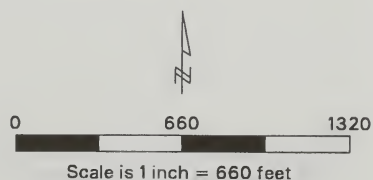
Woodpecker Unit 98 Alternative 2,3,4,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 102	Unit Size : 14 acres	Alternative: 2,3,4,5,6
Aerial Photo: 1999 2398-156	Volume strata: 1	acres high
VCU: 452		11 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? No	Estimated timber volume: 70 mbf	Alts. 2,3,4
	220 mbf	Alts. 5,6

Harvest Treatment: Alternatives 2, 3, and 4: 75% retention, remove trees in clumps or scattered
 Alternatives 5 and 6: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is a Class IV, Channel Type MM0
 Stream 2 is a Class I, Channel Type MM1

Mitigation: *Stream 1:* Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding and leave reserve trees where feasible.
Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 120'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.

Concern: A temporary road provides access to this unit from Road 6282.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

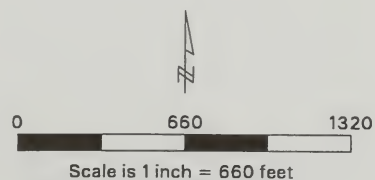
Woodpecker Unit 102 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	103	Unit Size :	4 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 2198-37	Volume strata:	4		acres high
VCU:	452		0		acres medium
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	20 mbf	Alts.	2,3,4
			70 mbf	Alts.	5,6

Harvest Treatment: Alternatives 2, 3, and 4: 75% retention, remove scattered trees or in clumps
Alternatives 5 and 6: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

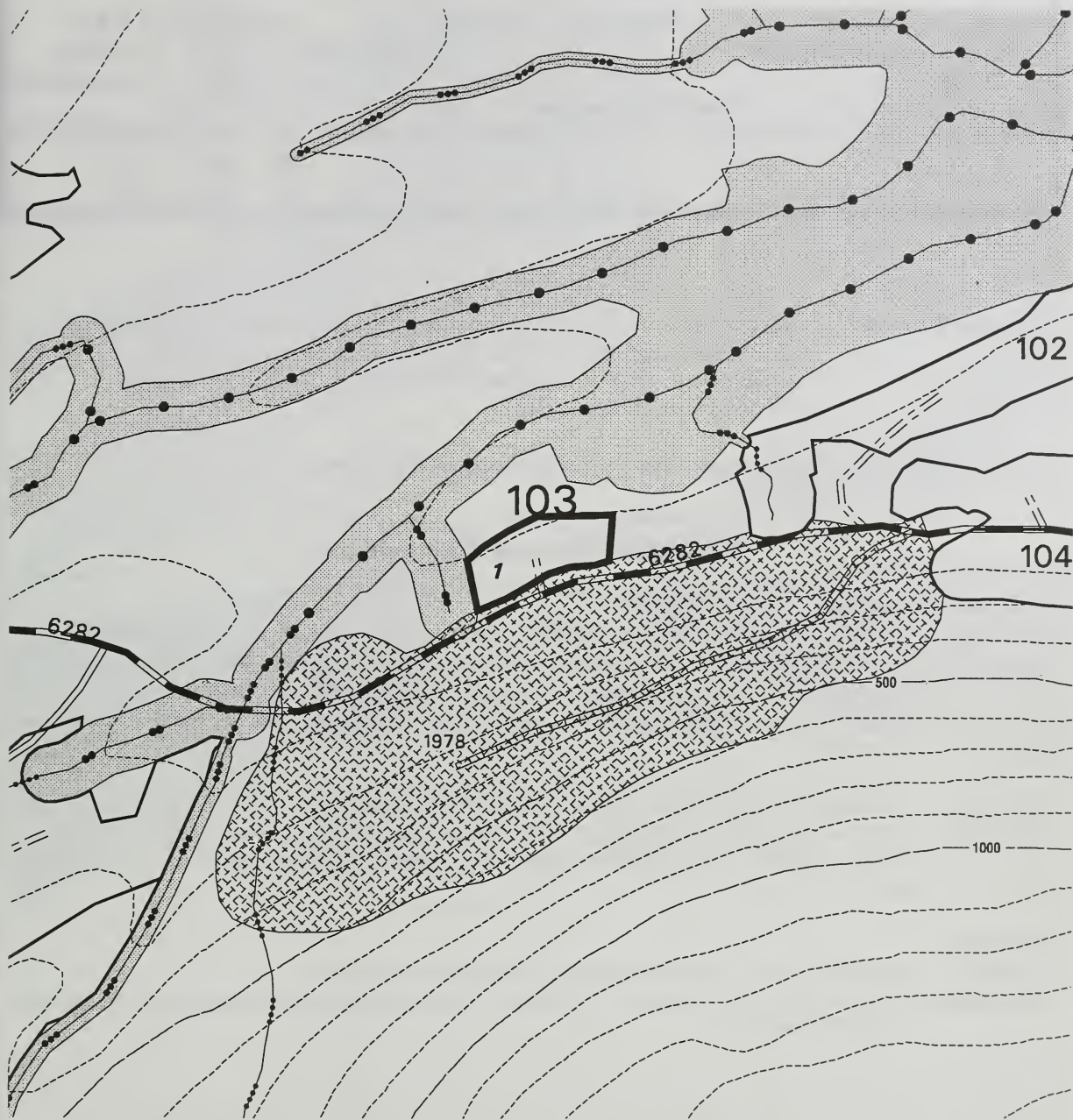
Concern: Stream 1 is Class II, Channel Type MM1.

Mitigation: No commercial timber harvest with 100'. No programmed commercial timber harvest within the Riparian Management Area, or 120'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: A temporary road provides access to this unit from Road 6282.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

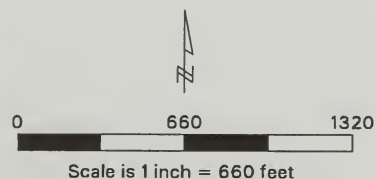
Woodpecker Unit 103 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	104b	Unit Size :	11 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1999 2398-156	Volume strata:	0	acres high	
VCU:	452		11	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	90	mbf	Alts. 2,3,4
			280	mbf	Alt. 5
			180	mbf	Alt. 6

Harvest Treatment: Alternatives 2, 3, and 4: 75% retention, remove scattered trees or in clumps
Alternative 5: 20-30% retention, leave trees scattered or in clumps
Alternative 6: 50-66% retention, remove trees 2-acre or less openings or dispersed throughout the unit

Logging/Transportation Systems: Shovel yarding /one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type MC1 that flows into a Class I, Channel Type FP3

Mitigation: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 130'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: A temporary road provides access to this unit from Road 6282.

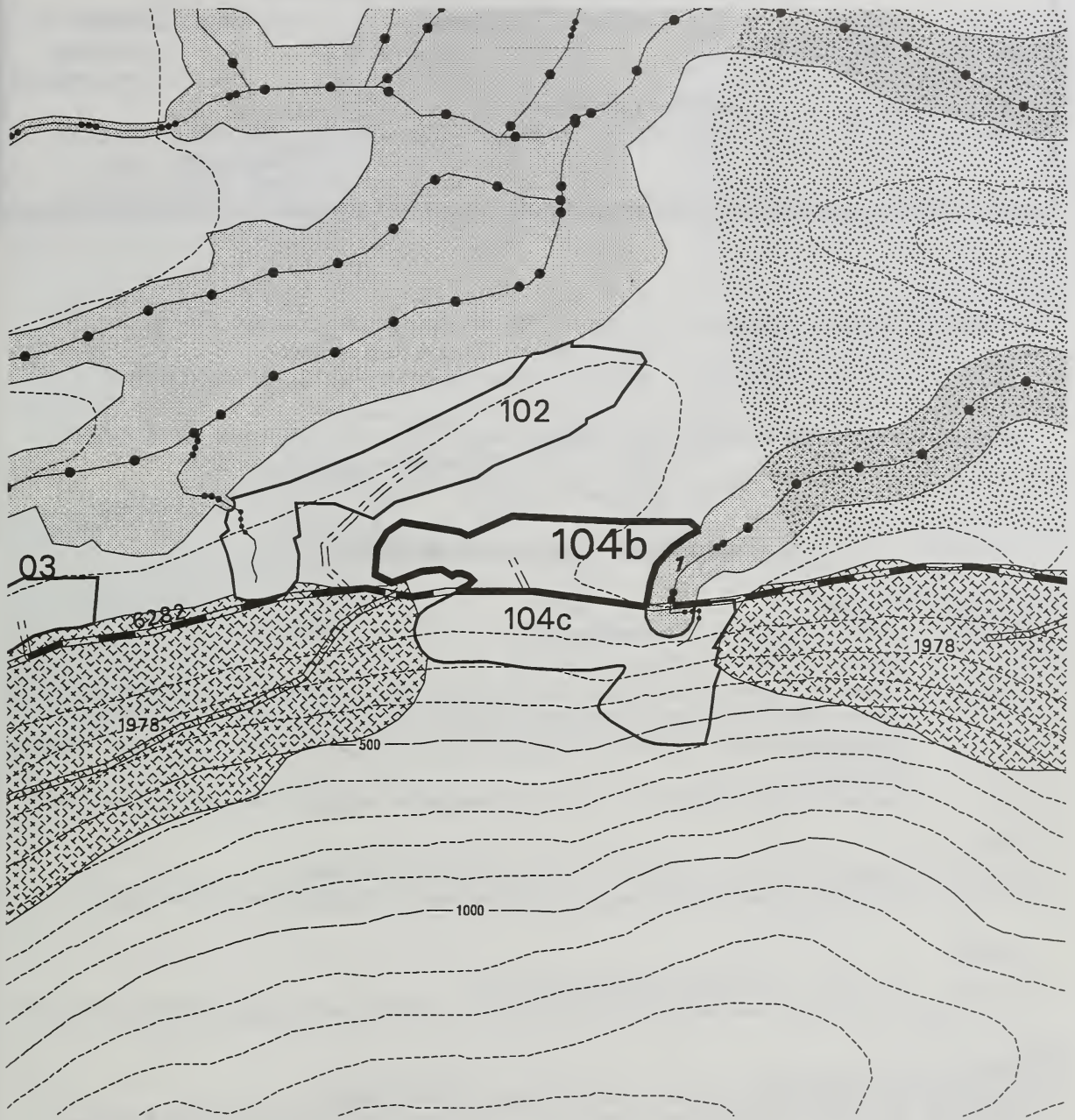
Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wetlands

Concern: There are 9 acres of muskeg/forested wetland within the unit.

Mitigation: Avoid muskeg areas when shovel yarding. Do not harvest trees on areas that are unsuitable for timber production.

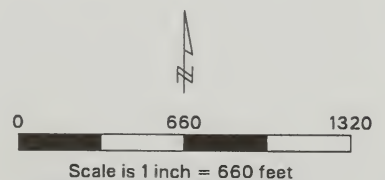
Woodpecker Unit 104b Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	104c	Unit Size :	13 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1999 2398-156	Volume strata:	7	acres high	
VCU:	452		6	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	100 mbf	Alts. 2,3,4	
			330 mbf	Alt. 5	
			210 mbf	Alt. 6	

Harvest Treatment: Alternatives 2, 3, and 4: 75% retention, remove trees in corridors
Alternative 5: 20-30% retention, leave trees in clumps
Alternative 6: 50-66% retention, remove trees in 2-acre or less corridors

Logging/Transportation Systems: Cable yarding / Road 6282 serves as the lower boundary of the unit. The road will provide a continuous landing.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type MC1
Stream 2 is Class IV, Channel Type HC0

Mitigation: *Stream 1:* No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 130'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Soils

Concern: Steep slopes occur in the vicinity of the southern unit boundary.
Mitigation: The steep slopes along the southern unit boundary were avoided during unit design.

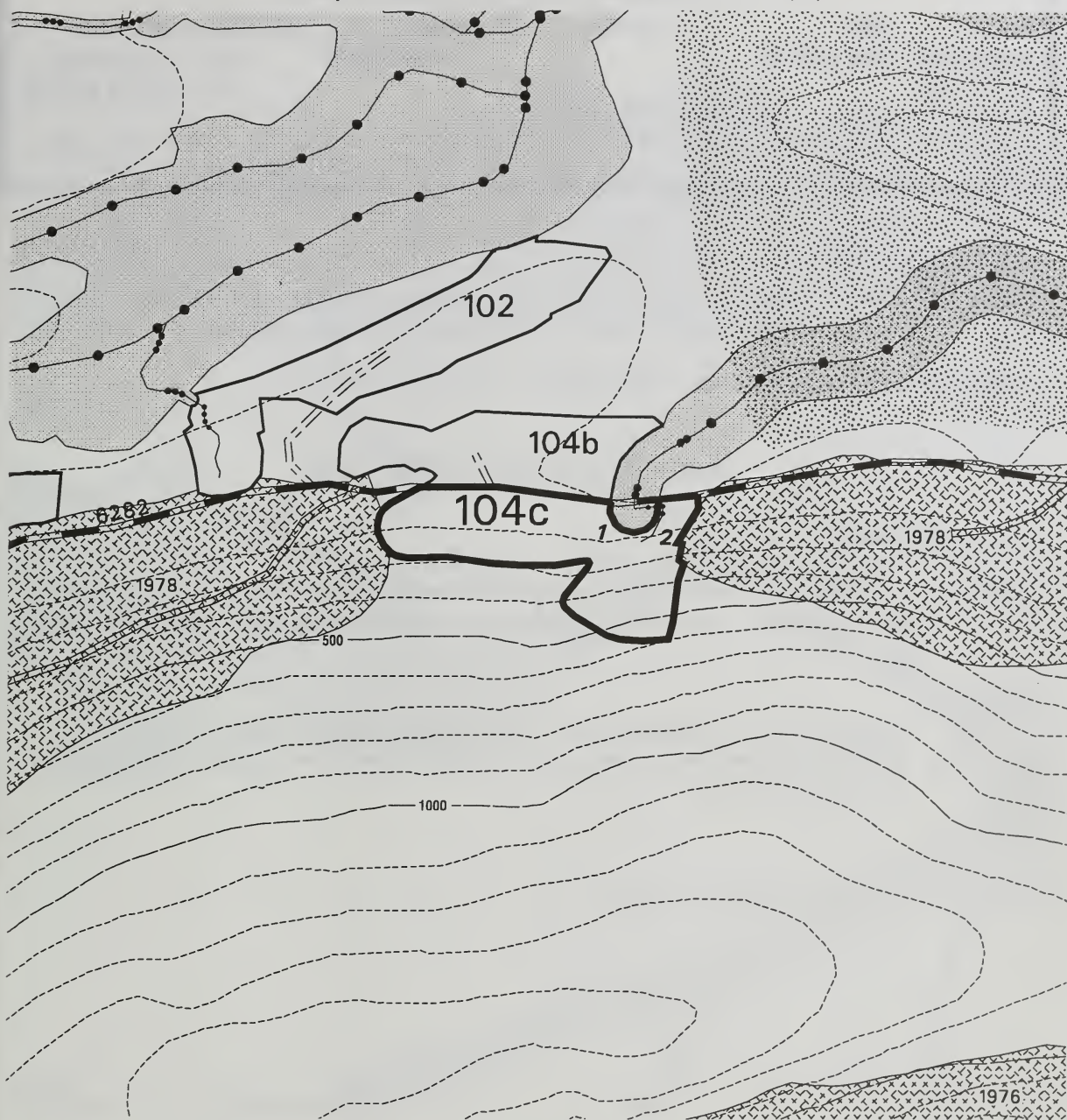
Wildlife

Concern: The unit contains high value marten habitat.
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.
Mitigation: Retention of at least 20% of the stand and the unit size will meet the Partial Retention VQO.

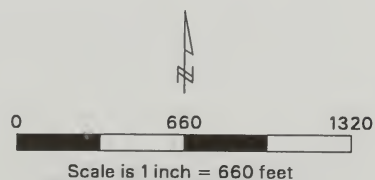
Woodpecker Unit 104c Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	105	Unit Size :	17 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 2198-26	Volume strata:	0	acres high	
VCU:	452		12	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	70 mbf	Alts. 2,3,4,6	
			140 mbf	Alt. 5	

Harvest Treatment: Alternatives 2, 3, 4 and 6: 75% retention, remove scattered trees or in clumps
Alternative 5: 50-66% retention, remove trees scattered trees or in clumps

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: A temporary road provides access to this unit from Road 6282.

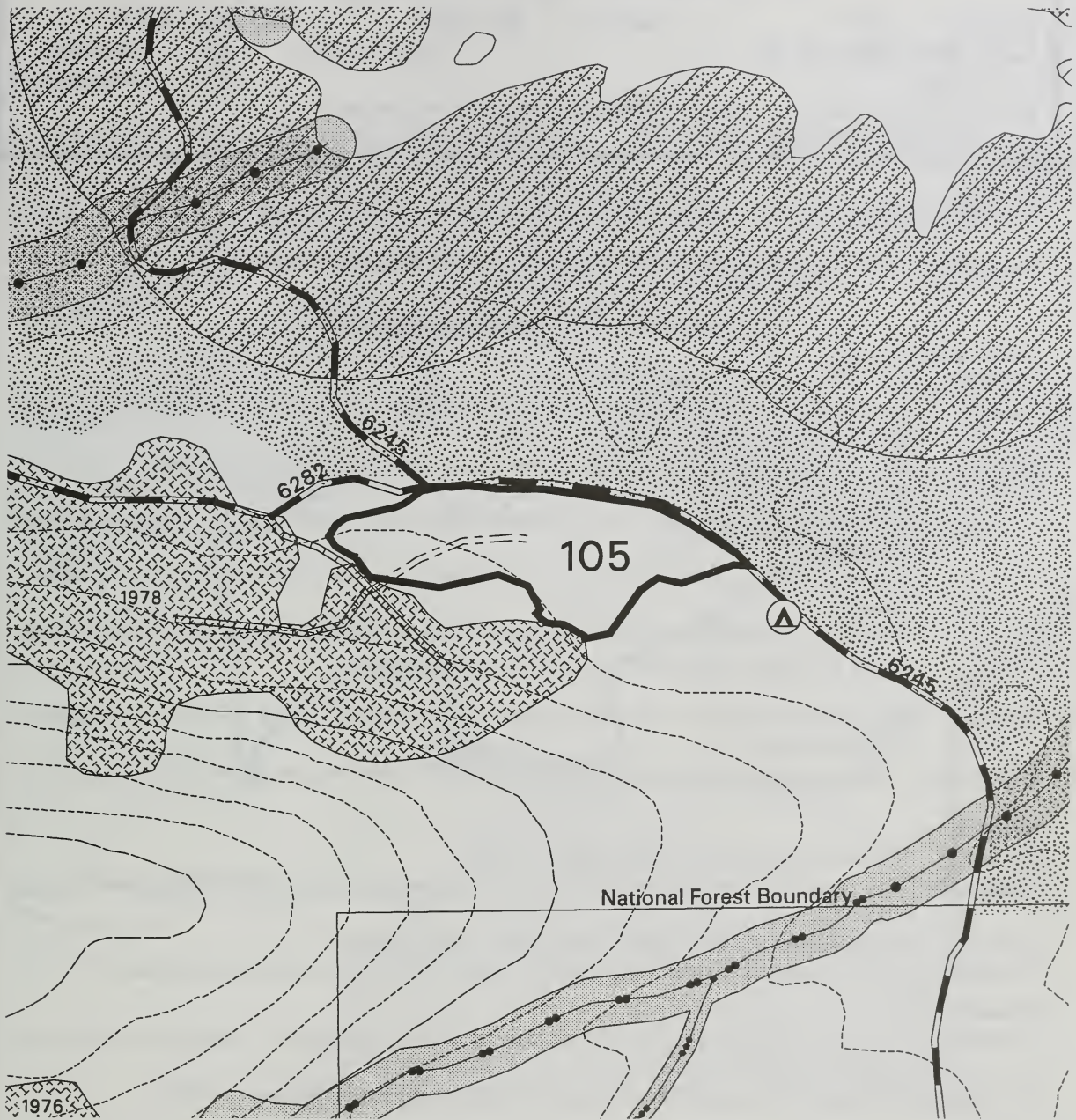
Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wetlands

Concern: There are 5 acres of muskeg/forested wetland mosaic on eastern side of the unit.

Mitigation: Avoid muskeg areas where practicable and do not harvest trees on areas that are unsuitable for timber production.

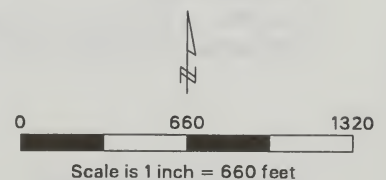
Woodpecker Unit 105 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	109	Unit Size :	62 acres	Alternative:	4,5,6
Aerial Photo:	1998 2198-27	Volume strata:	38	acres high	
VCU:	452		24	acres medium	
Land Use Designation:	Scenic Viewshed, Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	570	mbf	Alts. 4,5,6

Harvest Treatment: 50-66% retention, remove trees in 2-acre or less openings

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6283.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type HC1
Streams 2 and 3 are Class IV, Channel Type MM1
Stream 4 is a Class III, Channel Type HC2

Mitigation: *Stream 1:* No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area or 100'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Streams 2 and 3: Apply BMP 13.16. Use partial suspension and split line yarding where feasible.

Stream 4: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: Road 6283 is closed to traffic due to alder growth on the roadway, and will be reopened for timber harvest.

Mitigation: After harvest, close Road 6283, remove drainage structures and add waterbars as needed.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Concern: Maintain wildlife corridors between Old-growth Reserves.

Mitigation: Maintain stand structure for landscape connectivity between Old-growth Reserves.

Scenery

Concern: A portion of the unit is visible from Sumner Strait and the unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 50% of the stand will meet the Partial Retention VQO.

Wetlands

Concern: There are 5 acres of muskeg/forested wetland mosaic along the south central boundary.

Mitigation: Design boundary during layout to avoid muskeg areas.

Transportation

Concern: The unit is not accessible by road due to steep terrain.

Mitigation: Use helicopter logging to access the unit.

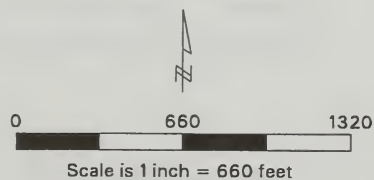
Woodpecker Unit 109 Alternative 4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 110	Unit Size : 56 acres	Alternative: 4,5,6
Aerial Photo: 1998 2198-36	Volume strata:	8 acres high
VCU: 452		42 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? No	Estimated timber volume:	420 mbf Alts. 4,6
		990 mbf Alt. 5

Harvest Treatment: Alternatives 4 and 6: 50-66% retention, remove trees dispersed throughout the unit
 Alternative 5: 20-30% retention, leave trees scattered throughout the unit

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6283.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC3
 Stream 2 is Class II, Channel Type HC1

Mitigation: *Stream 1:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 100'. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: Road 6283 is currently closed to traffic due to alder growth and will be reopened for harvest.

Mitigation: After harvest, close the road, remove drainage structures, and add waterbars as needed.

Soils

Concern: Areas with steep slopes (>72%) occur adjacent to the unit.

Mitigation: The unit was modified to exclude the area of steep slopes.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 20% of the stand will meet the Partial Retention VQO.

Wetlands

Concern: There are 21 acres of muskeg/forested wetland scattered throughout the unit.

Mitigation: Avoid muskeg areas where practicable. Helicopter logging will achieve suspension to minimize damage.

Transportation

Concern: The unit is not accessible by road due to steep terrain.

Mitigation: Use helicopter to access the unit.

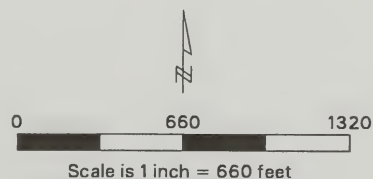
Woodpecker Unit 110 Alternative 4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	117a	Unit Size :	8 acres	Alternative:	2,5,6
Aerial Photo:	1999 2398-99	Volume strata:	8		acres high
VCU:	452		0		acres medium
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	100 mbf	Alts. 2,5,6	

Harvest Treatment: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Cable yarding / Road 40821

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Road 40821 accesses this unit.

Mitigation: Put Road 40821 into “storage” after harvest is complete. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

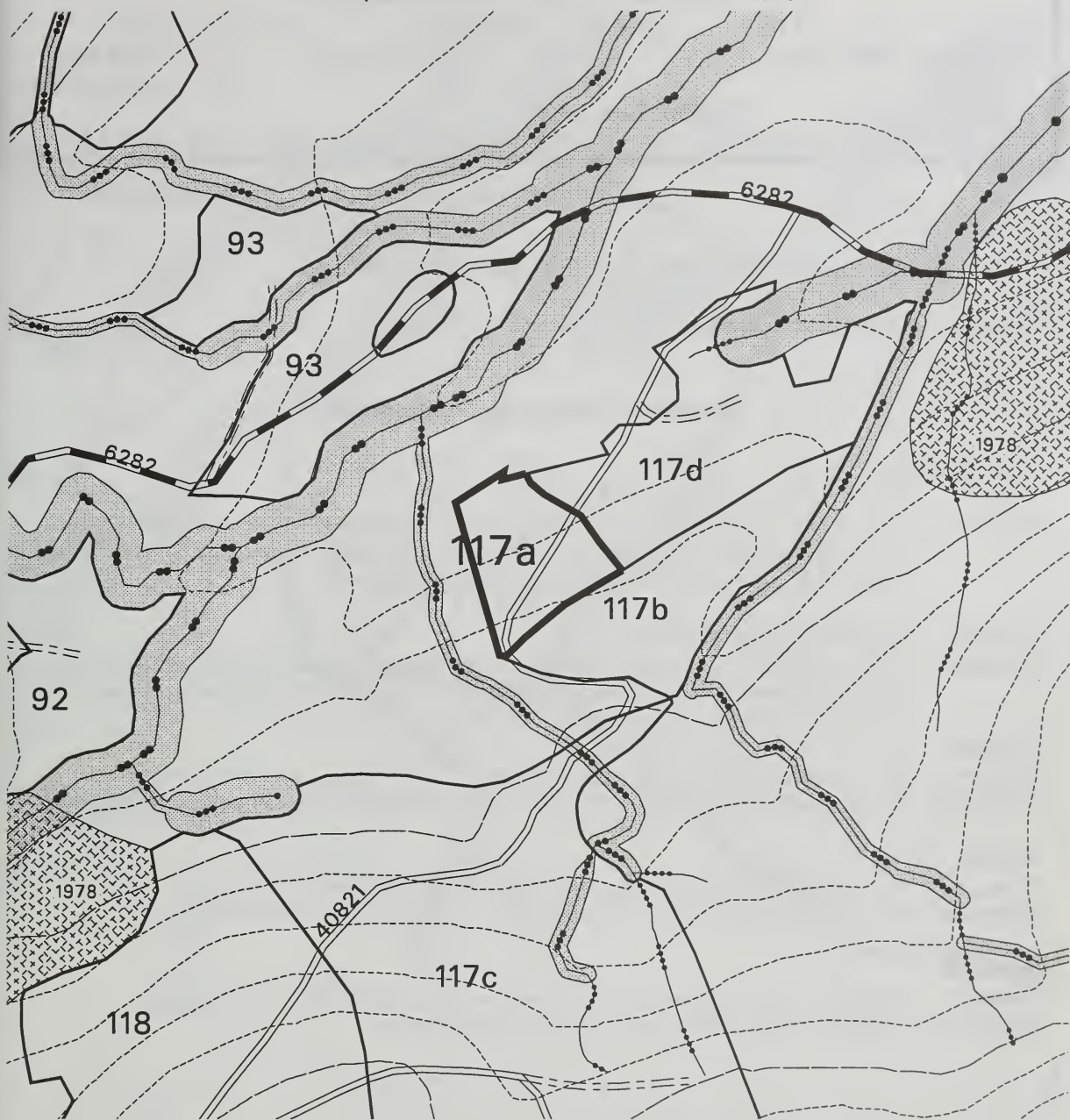
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 20% of the stand will meet the Modification VQO.

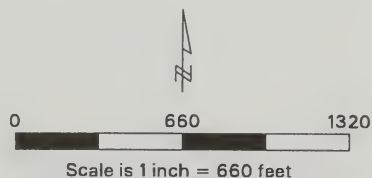
Woodpecker Unit 117a Alternative 2,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	117b	Unit Size :	14 acres	Alternative:	2,5,6
Aerial Photo:	1999 2398-99	Volume strata:	0	acres high	
VCU:	452		14	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	220	mbf	Alts. 2,5,6

Harvest Treatment: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Cable yarding / Road 40821

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC6

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: Road 40821 accesses this unit.

Mitigation: Put Road 40821 into "storage" after harvest is complete. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

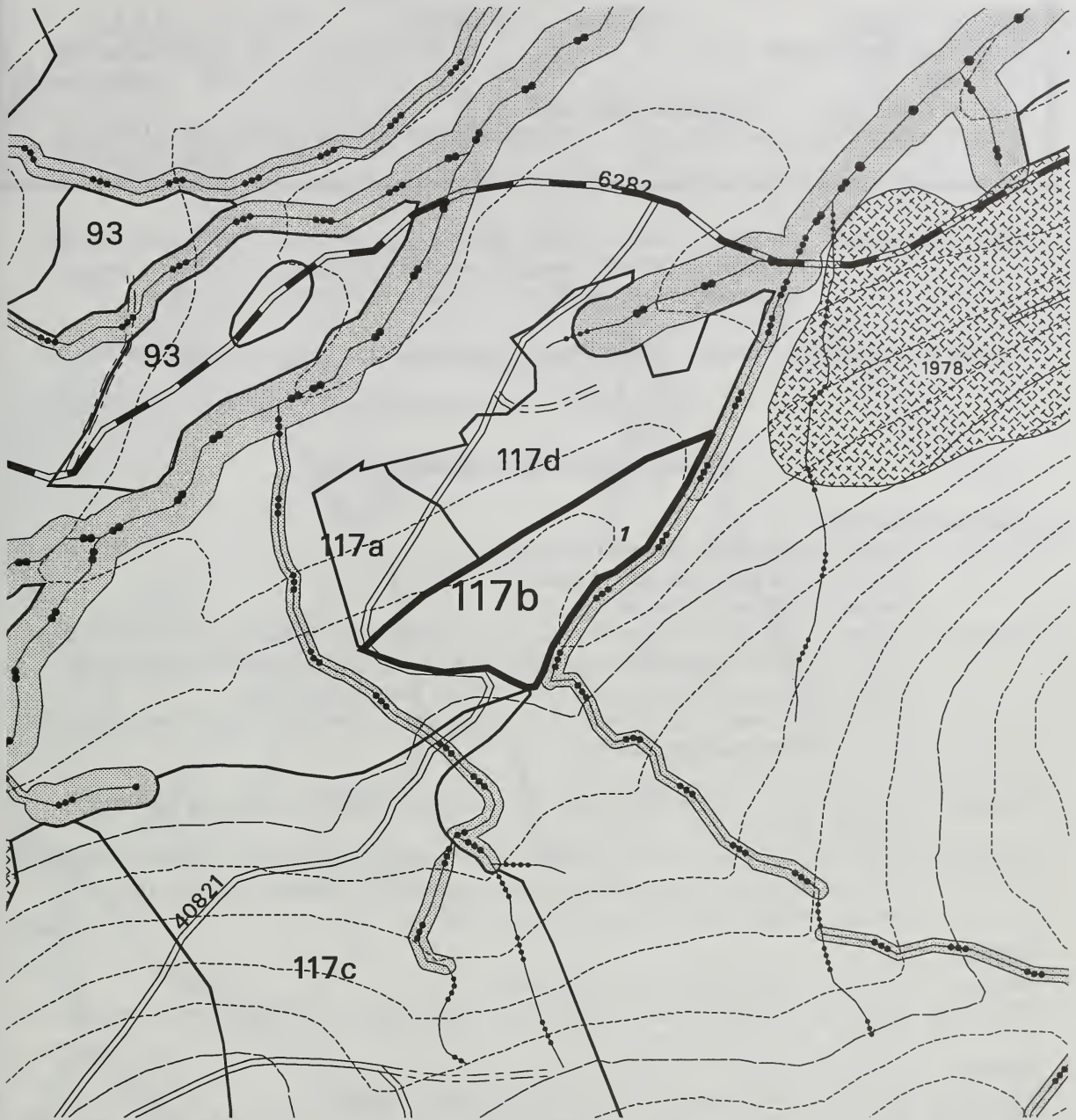
Mitigation: Retention of at least 20% of the stand will meet the Modification VQO.

Wetlands

Concern: There are 6 acres of muskeg/forested wetland along the northwestern boundary.

Mitigation: Design boundary during layout to avoid muskeg areas.

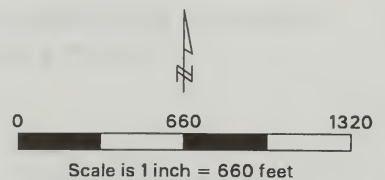
Woodpecker Unit 117b Alternative 2,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 117c	Unit Size : 73 acres	Alternative: 2,4,5,6
Aerial Photo: 1999 2398-98	Volume strata: 21	acres high
VCU: 452		49 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? No	Estimated timber volume: 620 mbf	Alts. 2,4,6
	1460 mbf	Alt. 5

Harvest Treatment: Alternative 2 and 6: 50-66% retention, remove trees in 2-acre or less corridors
 Alternative 4: 50-66% retention, remove trees dispersed throughout the unit
 Alternative 5: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Alternatives 2, 5 and 6: Cable yarding / one temporary road and Road 40821
 Alternative 4: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC2
 Streams 2 and 3 are Class IV, Channel Type HC5
 Stream 4 is Class III, Channel Type PA5

Mitigation: *Stream 1:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Streams 2, 3, and 4: Apply BMP 13.16. Use partial suspension and split line yarding and leave reserve trees where feasible.

Concern: Alternatives 2, 5 and 6: Road 40821 runs through this unit. A temporary road also accesses the unit.

Mitigation: Alternatives 2, 5 and 6: Put Road 40821 into "storage" after harvest. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: Meet marten standards and guidelines in the high volume strata in the southwest portion of the unit. See unit folder map.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

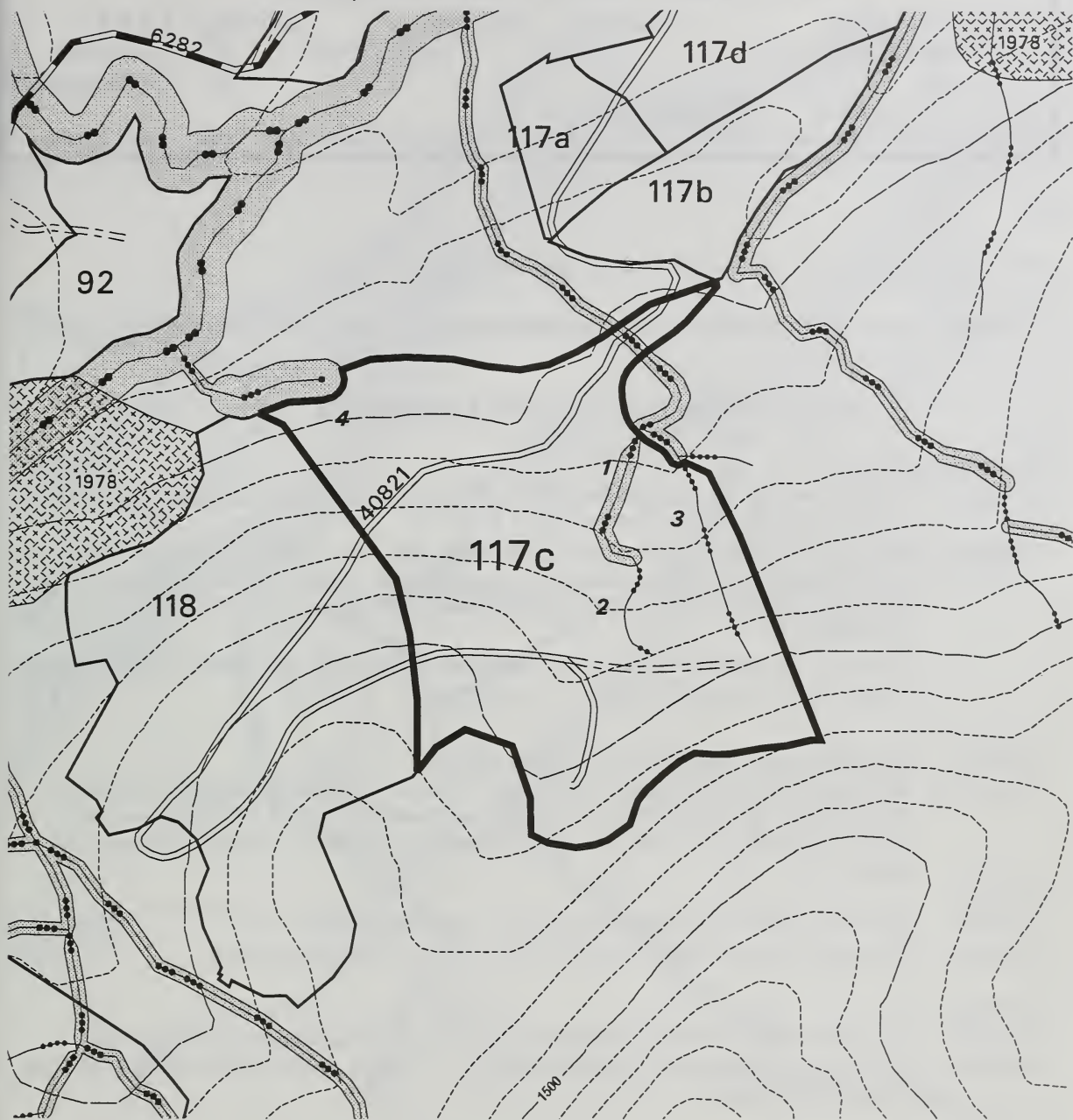
Mitigation: Retention of at least 20% of the stand will meet the Modification VQO. Avoid continuous corridors across the entire unit.

Wetlands

Concern: There are 15 acres of muskeg/forested wetland mosaic in the southern part of the unit and 19 acres in the northern part of the unit.

Mitigation: Avoid muskeg areas where practicable and do not harvest trees on areas that are unsuitable for timber production.

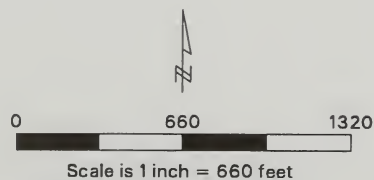
Woodpecker Unit 117c Alternative 2,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	117d	Unit Size :	19 acres	Alternative:	2,3,5,6
Aerial Photo:	1999 2398-99	Volume strata:	0	acres high	
VCU:	452		19	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	190	mbf	Alts. 2,3,5,6

Harvest Treatment: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Shovel yarding / one temporary road and Road 40821

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type MM1 flowing from a Class IV, Channel Type MM1
Stream 2 is Class III, Channel Type HC6

Mitigation: *Stream 1:* No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 120'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Stream 2: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: Road 40821 and a temporary road access the unit.

Mitigation: Put Road 40821 into "storage" after harvest. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil. Close the temporary road and remove all drainage structures after harvest.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 20% of the stand will meet the Modification VQO.

Wetlands

Concern: There are 7 acres of muskeg/forested wetland mosaic in the southern part of the unit.

Mitigation: Avoid muskeg areas where practicable and do not harvest trees on areas that are unsuitable for timber production.

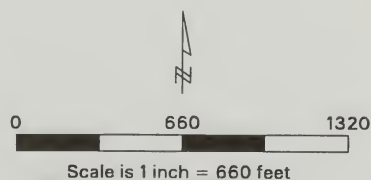
Woodpecker Unit 117d Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	118	Unit Size :	59 acres	Alternative:	2,4,5,6
Aerial Photo:	1999 2398-98			Volume strata:	32 acres high
VCU:	452				27 acres medium
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	1235 mbf	Alts.	2,5,6
			525 mbf	Alt.	4

Harvest Treatment: Alternatives 2, 5 and 6: 20-30% retention, leave trees scattered or in clumps
Alternative 4: 50-66% retention, remove trees dispersed throughout the unit

Logging/Transportation Systems: Alternatives 2, 5 and 6: Cable yarding / Road 40821
Alternative 4: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC5

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: Alternatives 2, 5 and 6: Road 40821 accesses the unit.

Mitigation: Alternatives 2, 5 and 6: Put Road 40821 into "storage" after harvest. Remove or bypass all drainage structures to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

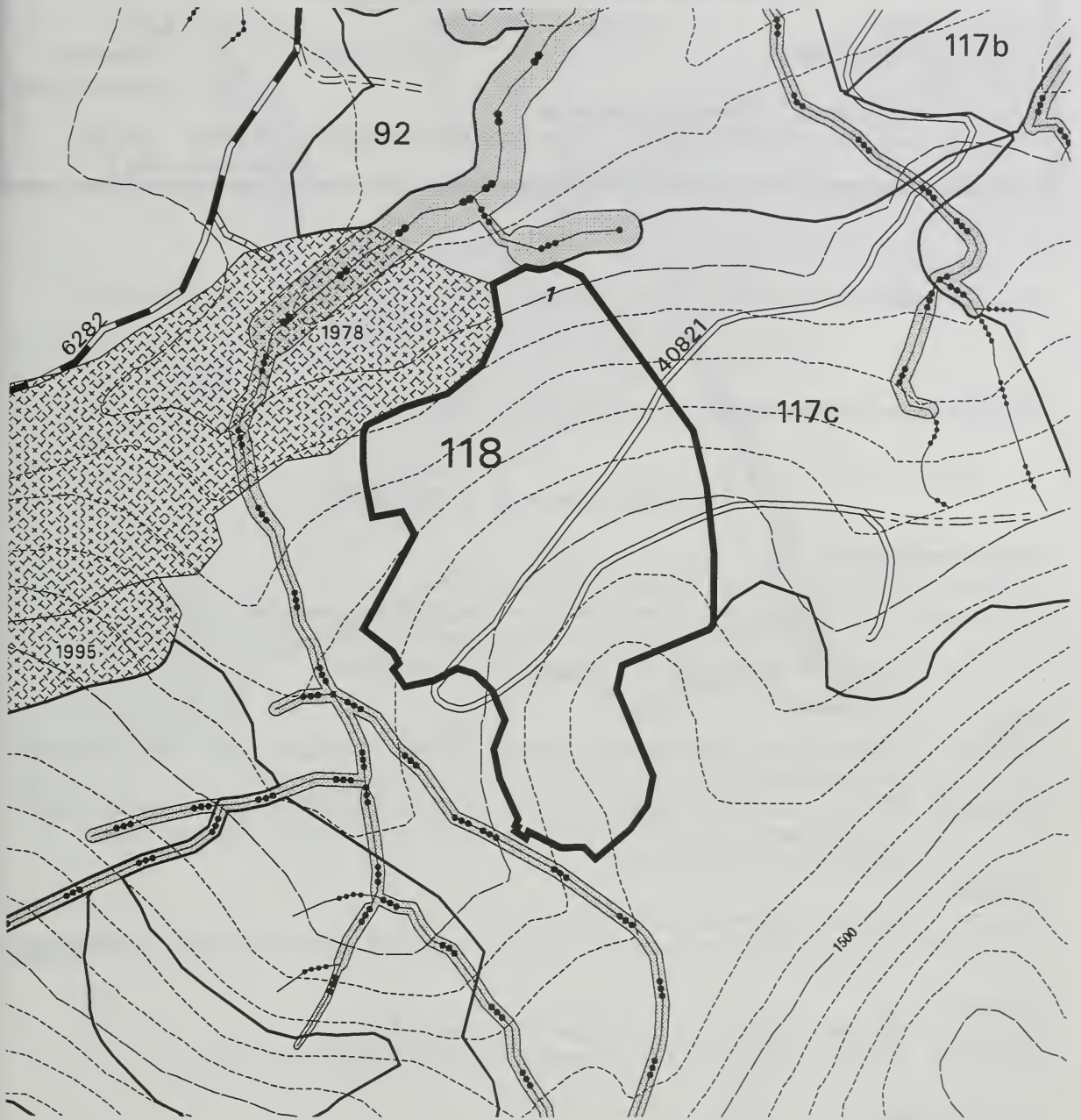
Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 20% of the stand will meet the Modification VQO.

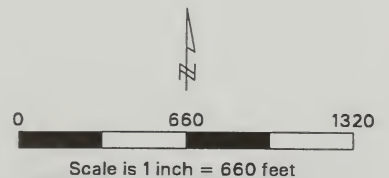
Woodpecker Unit 118 Alternative 2,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	119	Unit Size :	64 acres	Alternative:	4,5,6
Aerial Photo:	1999 2398-91	Volume strata:	53	acres high	
VCU:	452		11	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	610 mbf	Alts. 4,6	
			1440 mbf	Alt. 5	

Harvest Treatment: Alternative 4 and 6: 50-66% retention, remove trees dispersed throughout the unit

Alternative 5: 20-30% retention, leave trees scattered

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 40822 or Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC5/HC6

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Soils

Concern: The north central unit boundary is adjacent to an area of unstable slopes. The southeastern portion of the unit is on slopes >72%.

Mitigation: The north central unit boundary was modified to avoid the area of unstable slopes. Leave unmerchantable trees where possible and achieve full suspension when yarding the southeastern portion of the unit.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

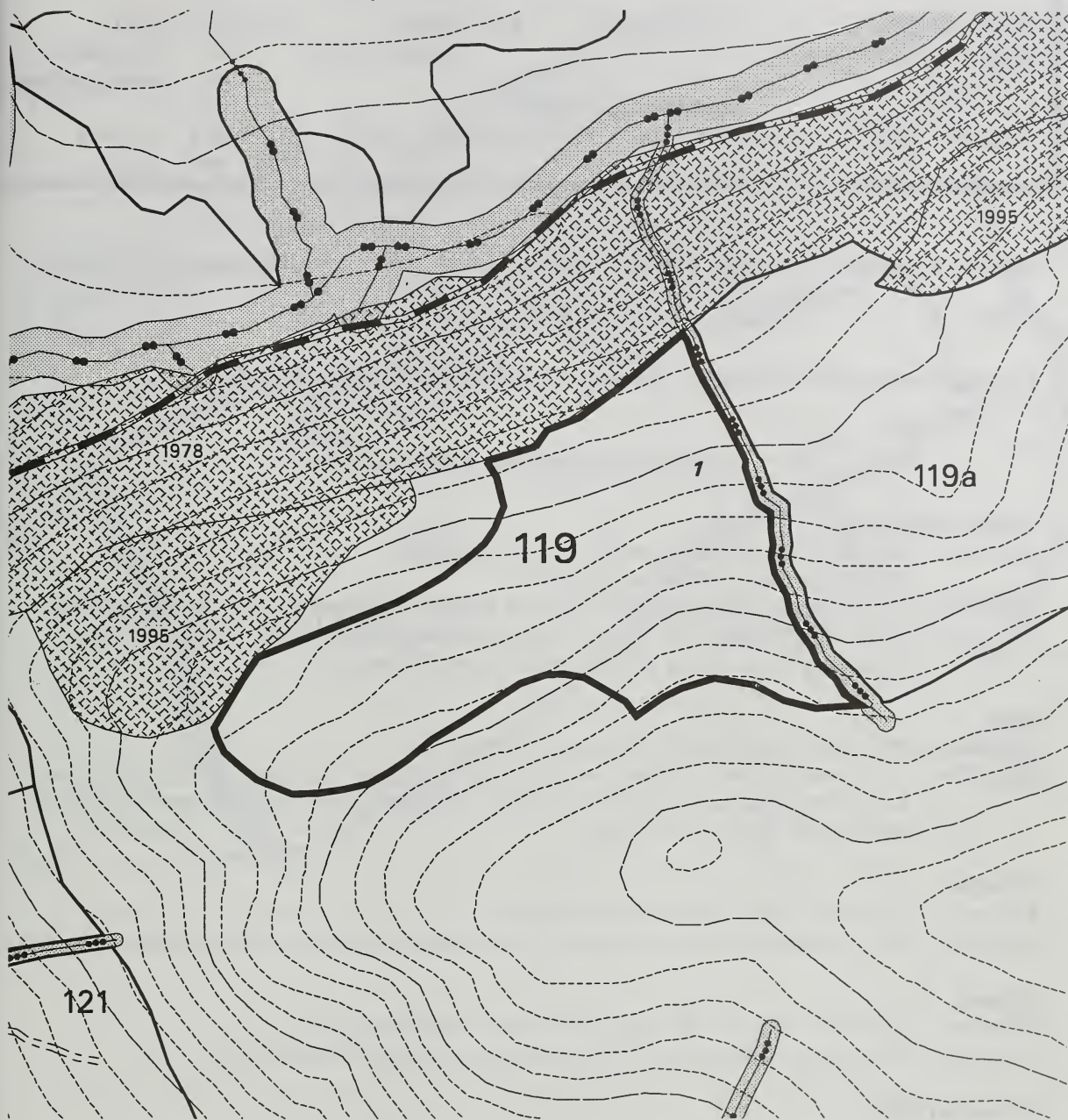
Mitigation: Retention of at least 20% of the stand will meet the Modification VQO.












Transportation









Concern: The unit is not accessible by road due to steep terrain.



Mitigation: Use helicopter to access the unit.

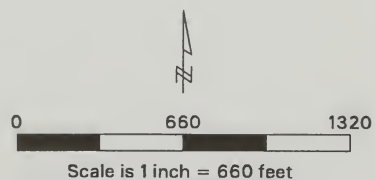
Woodpecker Unit 119 Alternative 4,5,6



-  Existing Managed Stands
-  Riparian Management Area
-  Beach Buffer
-  Old-growth Reserves
-  Lakes
-  Proposed Unit Boundaries
-  AHMU-Class 1 Streams
-  AHMU-Class 2 Streams
-  AHMU-Class 3 Streams
-  AHMU-Class 4 Streams
-  Existing Classified Roads

-  Existing Closed Roads
-  Proposed Classified Roads
-  Proposed Temporary Roads
-  500-ft. Contour Interval
-  100-ft. Contour Interval
-  Stream Numbers
-  Proposed Dispersed Picnic Site
-  Proposed Dispersed Camp Site

-  Existing Picnic Site
-  Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	119a	Unit Size :	111 acres	Alternative:	4,5,6
Aerial Photo:	1999 2398-91	Volume strata:	71	acres high	
VCU:	452		40	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	1015 mbf	Alts. 4,6	
			2390 mbf	Alt. 5	

Harvest Treatment: Alternative 4 and 6: 50-66% retention, remove trees dispersed throughout the unit
Alternative 5: 20-30% retention, leave trees scattered

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1, 2, and 3 are Class III, Channel Type HC5
Stream 4 is Class III, Channel Type HC6

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Soils

Concern: The northwest corner of the unit is on slopes >72%.

Mitigation: A soil stability investigation found these slopes to be stable and suitable for timber harvest. Leave unmerchantable trees where possible and achieve full suspension when yarding the northwestern portion of the unit.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

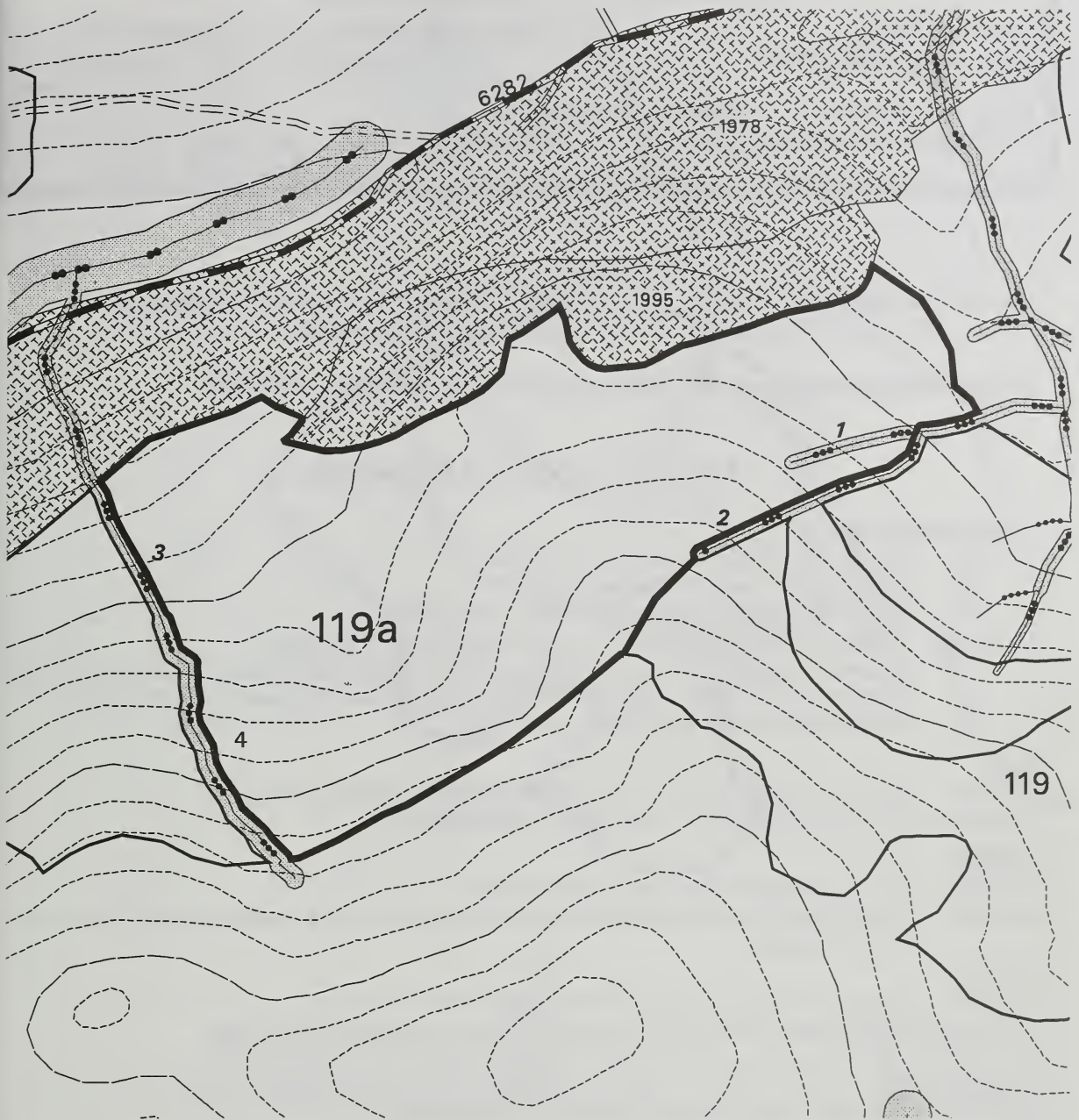
Mitigation: Retention of at least 20% of the stand will meet the Modification VQO.

Transportation

Concern: The unit is not accessible by road due to steep terrain.

Mitigation: Use helicopter to access the unit.

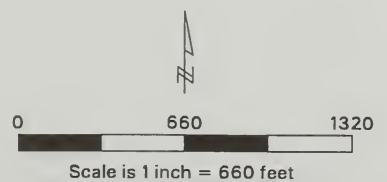
Woodpecker Unit 119a Alternative 4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	119b	Unit Size :	74 acres	Alternative:	4,5
Aerial Photo:	1999 2398-97	Volume strata:	8	acres high	
VCU:	452		65	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	610	mbf	Alt. 4
			1430	mbf	Alt. 5

Harvest Treatment: Alternative 4: 50-66% retention, remove trees dispersed throughout the unit
Alternative 5: 20-30% retention, leave trees scattered

Logging/Transportation Systems: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is a Class IV, Channel Type HC5
Stream 2 is a Class IV, Channel Type HC0
Streams 3, 4, and 5 are Class III, Channel Type HC5

Mitigation: *Streams 1 and 2:* Apply BMP 13.16 (Stream Channel Protection).
Streams 3, 4, and 5: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.

Soils

Concern: An area of steep slopes (>72%) occurs adjacent to the unit boundary.

Mitigation: The unit boundary was modified to avoid steep slopes.

Wildlife

Concern: This unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 20% of the stand will meet the Modification VQO.

Transportation

Concern: The unit is not accessible by road due to steep terrain.

Mitigation: Use helicopter to access the unit.

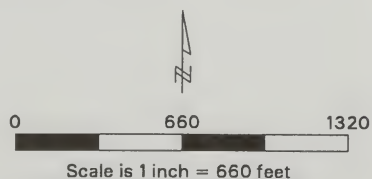
Woodpecker Unit 119b Alternative 4,5



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	121	Unit Size :	33 acres	Alternative:	2,6
Aerial Photo:	1999 2398-26	Volume strata:	33	acres high	
VCU:	452		0	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	210	mbf	Alts. 2,6

Harvest Treatment: 75% retention, remove trees in 2-acre or less corridors

Logging/Transportation Systems: Cable yarding / Road 6282 and one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class I, Channel Type MC2

Stream 2 is Class III, Channel Type HC5

Mitigation: *Stream 1:* No commercial timber harvest within 100'. No programmed commercial timber harvest within the remainder of the Riparian Management Area, defined as the channel side-slope break. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Stream 2: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: A temporary road accesses the unit.

Mitigation: Close the temporary road and remove all drainage structures after harvest.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatment meets marten standards and guidelines throughout the unit.

Concern: The unit is adjacent to a beach buffer.

Mitigation: The unit boundary was adjusted to maintain a 1000' beach buffer.

Concern: The unit contains high value deer winter habitat.

Mitigation: Retention of 75% of the stand will maintain winter habitat of a slightly lower quality. The stand will recover to full value in 40 years.

Scenery

Concern: A portion of the unit is visible from Sumner Strait.

Mitigation: Retention of 75% of the stand will meet the Partial Retention VQO. Avoid corridors perpendicular to Road 6245.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees displaying windfirm characteristics will be favored for retention.

Recreation

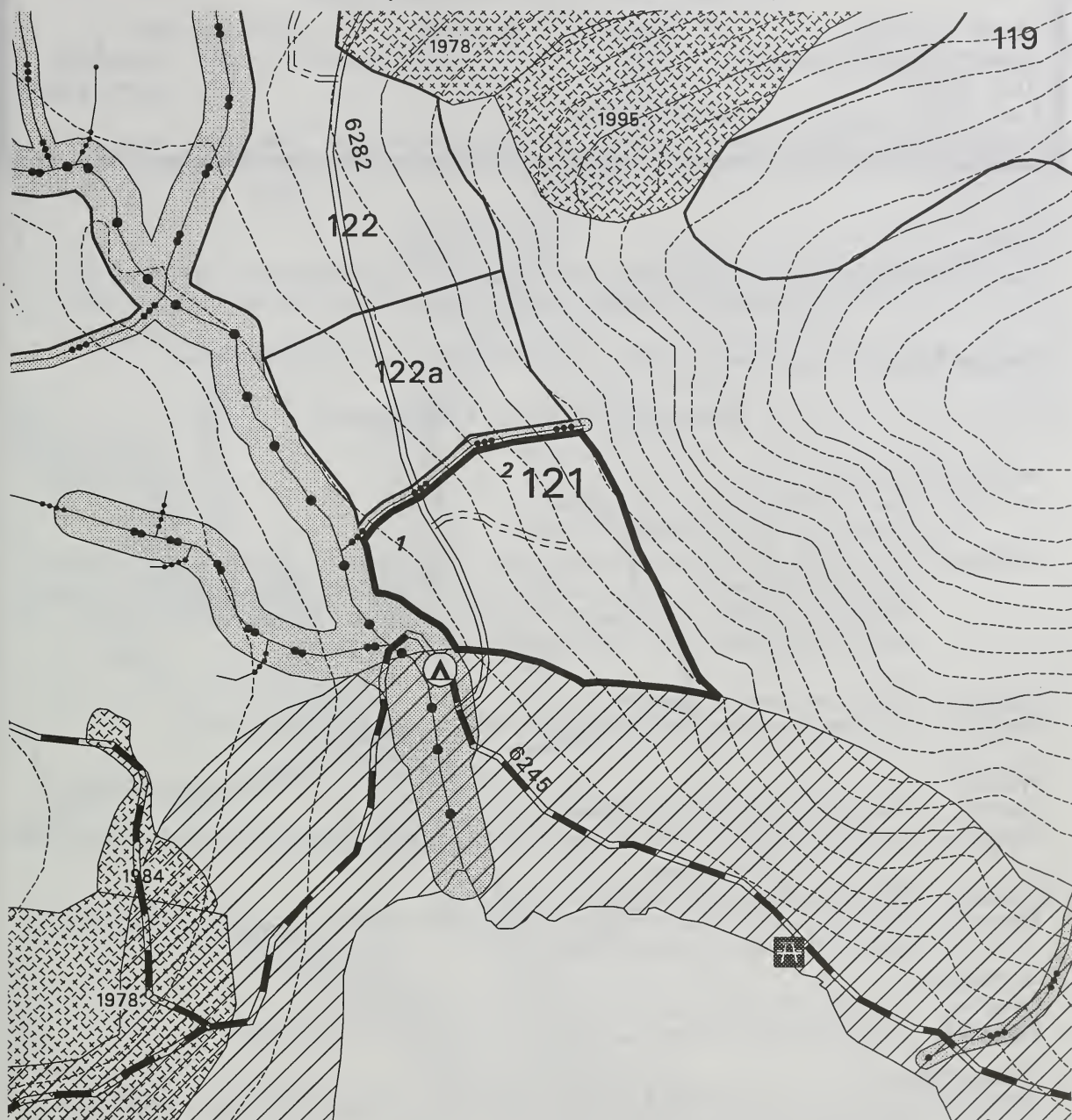
Concern: This unit may be partially visible from the proposed dispersed campsite/picnic area.

Mitigation: Retention of trees in the unit will lessen the visual impacts.

Transportation

Opportunity: An extension of Road 6282 accesses the unit. This extension will remain open as part of a loop road connection between Roads 6282 and 6245.

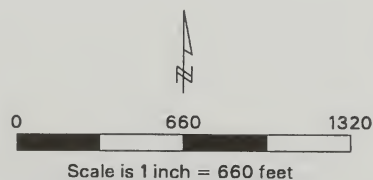
Woodpecker Unit 121 Alternative 2,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	122	Unit Size :	33 acres	Alternative:	2,6
Aerial Photo:	1999 2398-26	Volume strata:	33	acres high	
VCU:	452		0	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	350 mbf	Alts.	2,6

Harvest Treatment: 75% retention, 2-acre or less corridors or V-shaped patches east of Road 6245. Remove trees in clumps or dispersed throughout the unit west of Road 6245.

Logging/Transportation Systems: Cable yarding / Road 6282 and one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class I, Channel Type MC2
Stream 2 is Class II, Channel Type MC1

Mitigation: No commercial timber harvest within 100'. No programmed commercial timber harvest within the remainder of the Riparian Management Area, defined as the channel side-slope break. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: A temporary road accesses the unit.

Mitigation: Close the temporary road and remove all drainage structures after harvest.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatment meets marten standards and guidelines throughout the unit.

Concern: The unit contains high value deer winter habitat.

Mitigation: Retention of 75% of the stand will maintain winter habitat of a slightly lower quality. The stand will recover to full value in 40 years.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees displaying windfirm characteristics will be favored for retention.

Transportation

Opportunity: An extension of Road 6282 accesses the unit. This extension will remain open as part of a loop road connection between Roads 6282 and 6245.

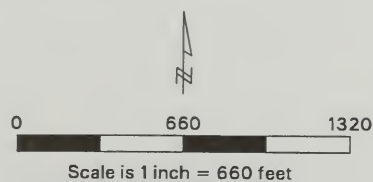
Woodpecker Unit 122 Alternative 2,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	122a	Unit Size :	19 acres	Alternative:	2,6
Aerial Photo:	1999 2398-26	Volume strata:	19	acres high	
VCU:	452		0	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	200 mbf	Alts.	2,6

Harvest Treatment: 75% retention, 2-acre or less corridors or V-shaped patches east of Road 6245. Remove trees in clumps or dispersed throughout the unit west of Road 6245.

Logging/Transportation Systems: Cable yarding / Road 6282

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC5
Stream 2 is Class I, Channel Type MC2

Mitigation: *Stream 1:* No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, defined as the channel side-slope break. Apply BMPs 12.6, 12.6a, and 13.16.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatment meets marten standards and guidelines throughout the unit.

Concern: The unit contains high value deer winter habitat.

Mitigation: Retention of 75% of the stand will maintain winter habitat of a slightly lower quality. The stand will recover to full value in 40 years.

Scenery

Concern: A portion of the unit is visible from Sumner Strait.

Mitigation: Retention of 75% of the stand will meet the Partial Retention VQO.

Vegetation

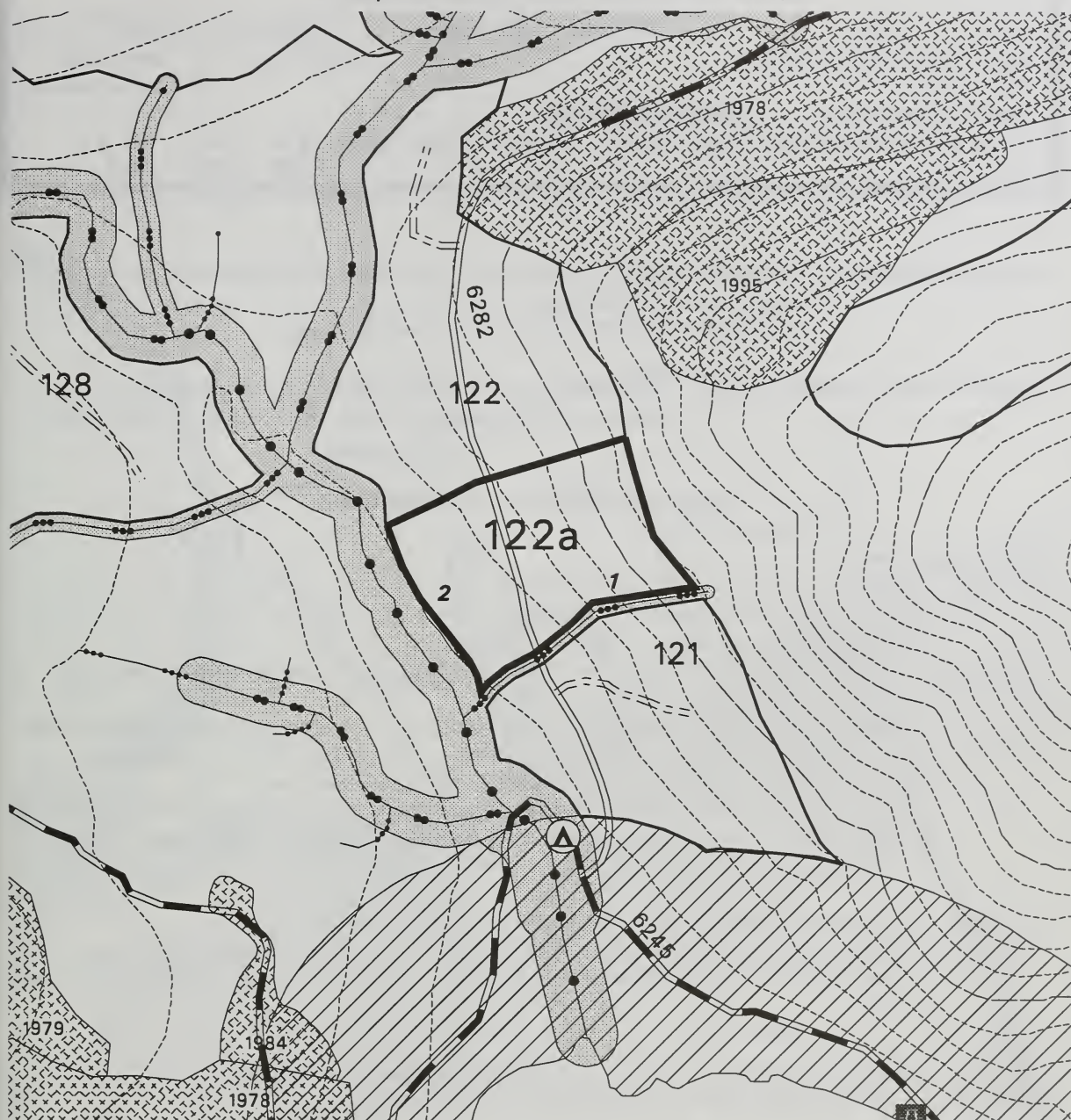
Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees displaying windfirm characteristics will be favored for retention.

Transportation

Opportunity: An extension of Road 6282 accesses the unit. This extension will remain open as part of a loop road connection between Roads 6282 and 6245.

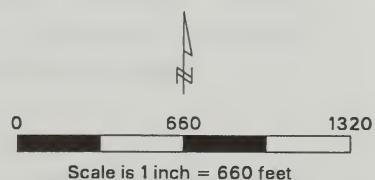
Woodpecker Unit 122a Alternative 2,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	123	Unit Size :	55 acres	Alternative:	2,4,5
Aerial Photo:	1999 2398-90			Volume strata:	31 acres high
VCU:	452				24 acres medium
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	Partly	Estimated timber volume:	520 mbf	Alts. 2,4	
			830 mbf	Alt. 5	

Harvest Treatment: Alternatives 2 and 4: 50-66% retention, remove trees in 2-acre or less openings or dispersed through the unit
Alternative 5: 20-30% retention, leave trees in clumps

Logging/Transportation Systems: Alternatives 2 and 5: Cable yarding / one temporary road
Alternative 4: Helicopter yarding. Use landings on Road 6282.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class IV, Channel Type HC5
Stream 2 is Class II, Channel Type MM1
Streams 3 and 4 are Class II, Channel Type MC1

Mitigation: *Stream 1:* Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding where feasible.
Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 120'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.
Streams 3 and 4: No commercial timber harvest within 100'. No programmed commercial timber harvest within the remainder of the Riparian Management Area, defined as the channel side-slope break. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: A temporary road provides access to this unit from Road 6282.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Soils

Concern: An area of steep slopes occurs adjacent to the northwestern boundary.

Mitigation: Unit as designed avoids unstable soils.

Wildlife

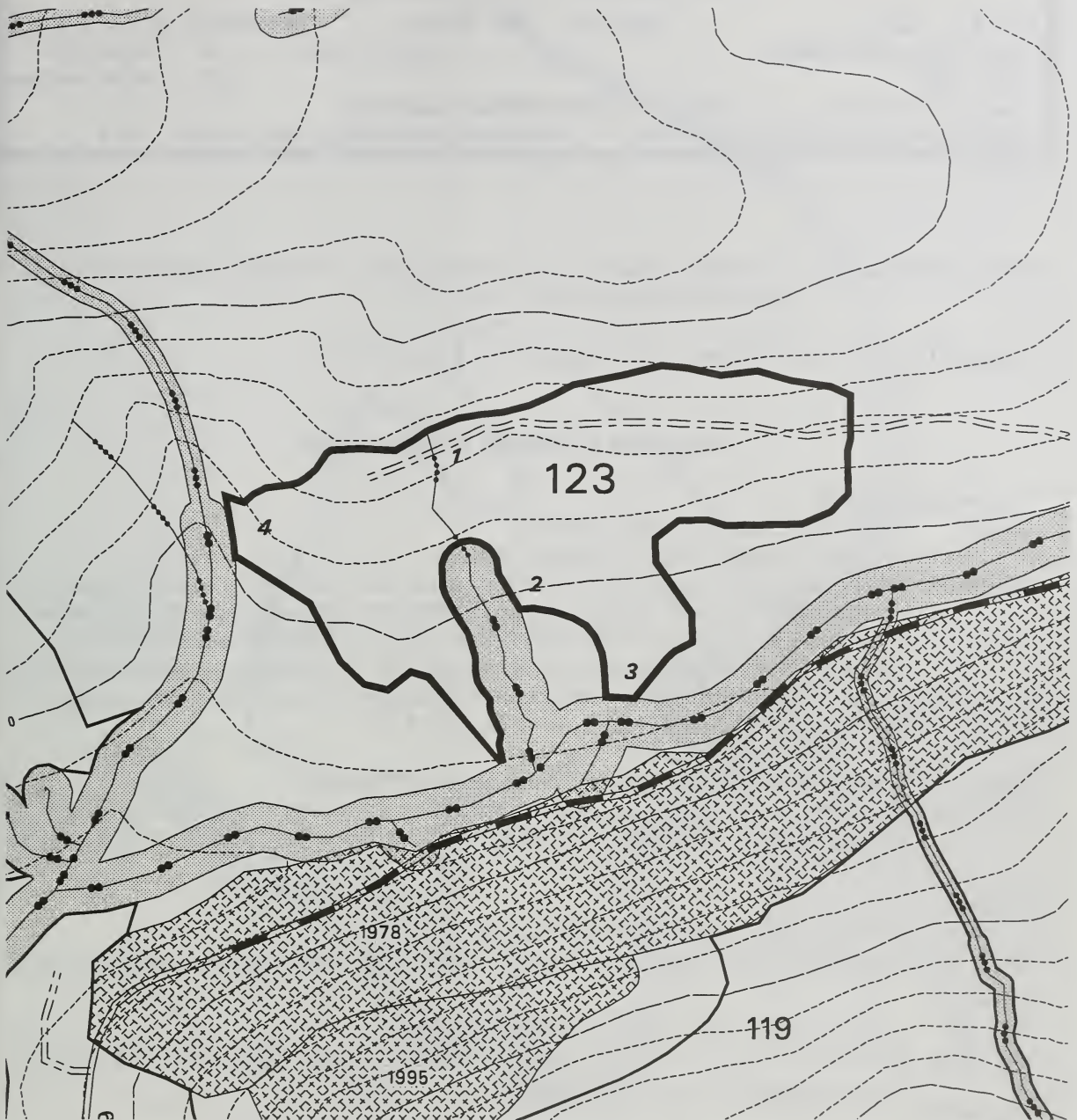
Concern: The unit contains high value marten habitat.












Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.









Concern: The unit contains high value deer winter habitat.



Mitigation: Residual trees will provide some snow interception. High value deer winter habitat is adjacent to the unit in the drainage to the west.

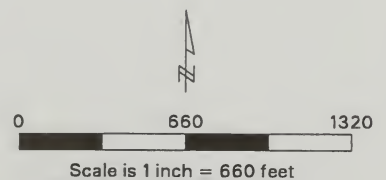
Woodpecker Unit 123 Alternative 2,4,5



-  Existing Managed Stands
-  Riparian Management Area
-  Beach Buffer
-  Old-growth Reserves
-  Lakes
-  Proposed Unit Boundaries
-  AHMU-Class 1 Streams
-  AHMU-Class 2 Streams
-  AHMU-Class 3 Streams
-  AHMU-Class 4 Streams
-  Existing Classified Roads

-  Existing Closed Roads
-  Proposed Classified Roads
-  Proposed Temporary Roads
-  500-ft. Contour Interval
-  100-ft. Contour Interval
-  Stream Numbers
-  Proposed Dispersed Picnic Site
-  Proposed Dispersed Camp Site

-  Existing Picnic Site
-  Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	125	Unit Size :	69 acres	Alternative:	2
Aerial Photo:	1999 2398-27	Volume strata:	9	acres high	
VCU:	452		60	acres medium	
Land Use Designation:	Scenic Viewshed, Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	400	mbf	Alt. 2

Harvest Treatment: 75% retention, remove 2-acre or less corridors or V-shaped groups north of road, remove trees dispersed south of the road

Logging/Transportation Systems: Cable yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type MC1
Stream 2 is Class II, Channel Type MC1/MC0

Mitigation: *Stream 1:* No programmed commercial timber harvest within the Riparian Management Area, defined as the side-slope break. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: No commercial timber harvest within 100'. No programmed commercial timber harvest within the remainder of the Riparian Management Area, defined as the channel side-slope break. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: A temporary road provides access to this unit from Road 6284.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatment meets marten standards and guidelines throughout the unit.

Scenery

Concern: A portion of the unit is visible from Sumner Strait.

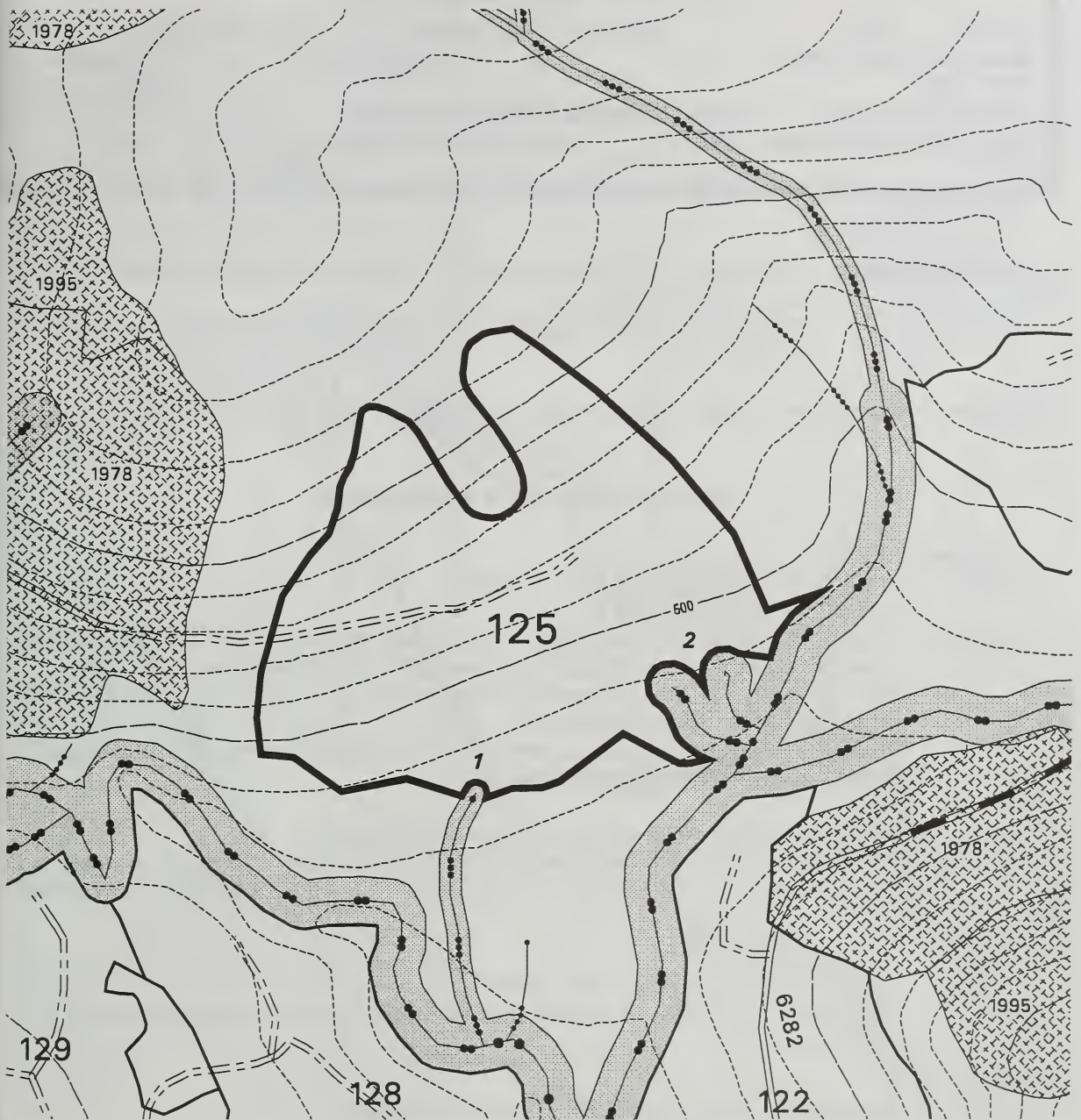
Mitigation: Retention of 75% of the stand will meet the Partial Retention VQO. Avoid continuous north-south corridors across the entire unit.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees displaying windfirm characteristics will be favored for retention.

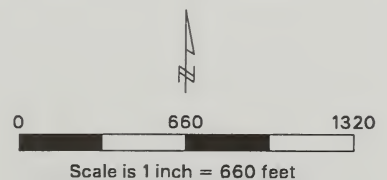
Woodpecker Unit 125 Alternative 2



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	128	Unit Size :	41 acres	Alternative:	2,3
Aerial Photo:	1999 2398-26			Volume strata:	37 acres high
VCU:	452				4 acres medium
Land Use Designation:	Scenic Viewshed, Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	310 mbf	Alt. 2	
			610 mbf	Alt. 3	

Harvest Treatment: Alternative 2: 75% retention, 2-acre or less corridors west of temporary road, and dispersed east of road
Alternative 3: 50-66% retention, remove trees in clumps or dispersed throughout the unit

Logging/Transportation Systems: Cable yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class I/II, Channel Type HC2/MC2
Stream 2 is Class III, Channel Type HC2

Mitigation: *Stream 1:* No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, defined as the side-slope break. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).
Stream 2: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6, 12.6a, and 13.16.

Concern: A temporary road provides access to this unit from Road 6245.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in both alternatives.

Scenery

Concern: The southern half of the unit is visible from Sumner Strait.

Mitigation: Retention of at least 50% of the stand will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees displaying windfirm characteristics will be favored for retention.

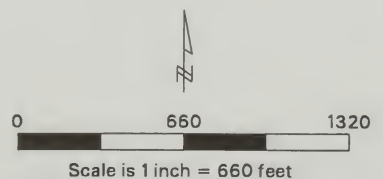
Woodpecker Unit 128 Alternative 2,3



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	129	Unit Size :	44 acres	Alternative:	2,3,4
Aerial Photo:	1999 2398-26	Volume strata:	2	acres high	
VCU:	452		42	acres medium	
Land Use Designation:	Scenic Viewshed, Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	330 mbf	Alts. 2,3,4	

Harvest Treatment: 75% retention, 2-acre or less corridors or dispersed where possible

Logging/Transportation Systems: Cable yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type MM1

Mitigation: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 120'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: A temporary road provides access to this unit from Road 6245.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Scenery

Concern: The southern half of the unit is visible from Sumner Strait.

Mitigation: Retention of at least 75% of the stand will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

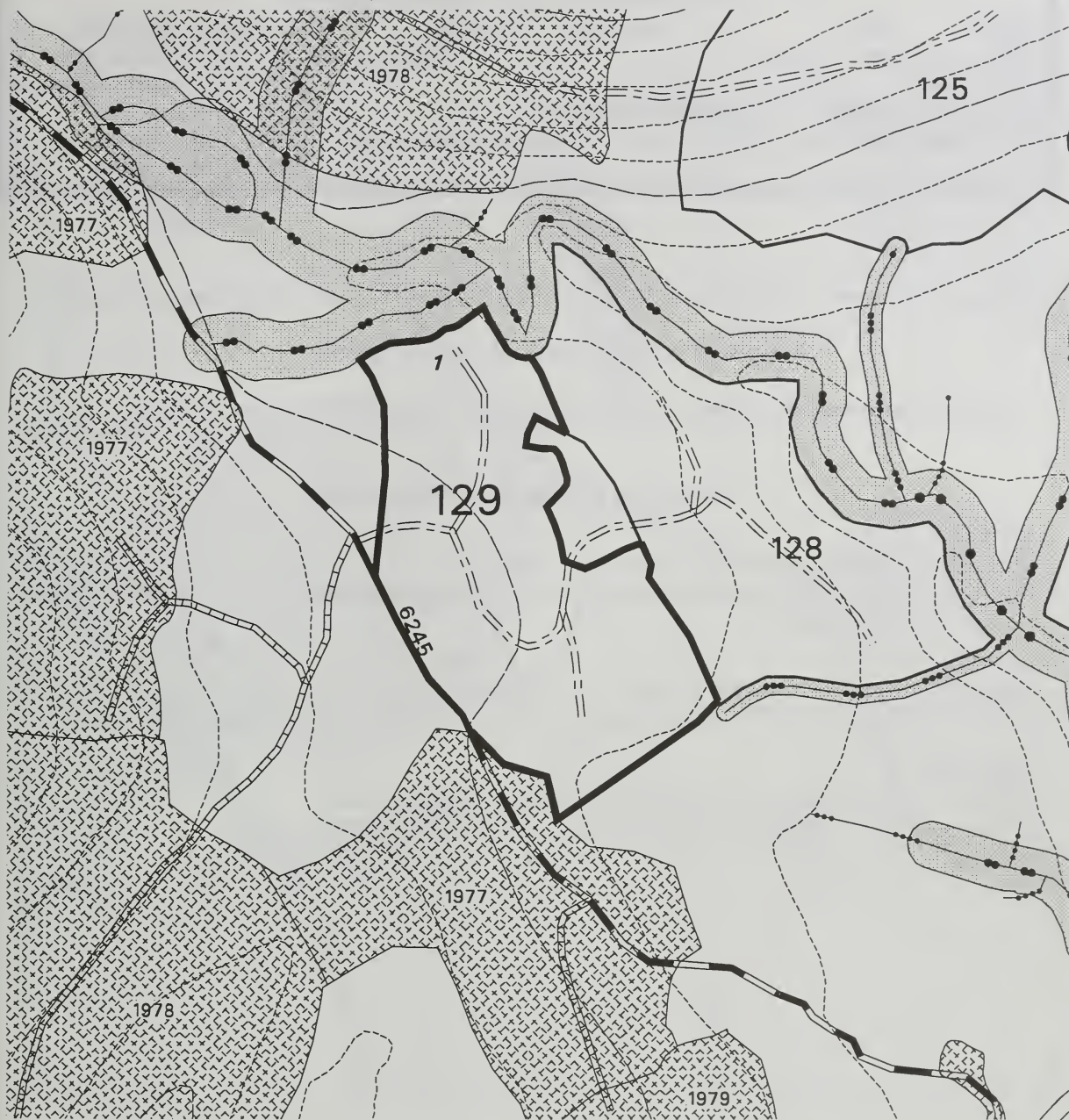
Mitigation: Trees displaying windfirm characteristics will be favored for retention.

Wetlands

Concern: There are 15 acres of forested wetland within the southern part of the unit.

Mitigation: Avoid any areas that are unsuitable for timber production.

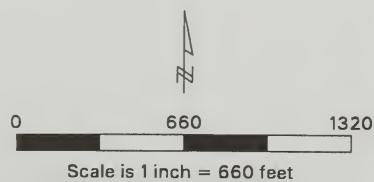
Woodpecker Unit 129 Alternative 2,3,4



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	141	Unit Size :	7 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 1798-238	Volume strata:	7	acres high	
VCU:	448		0	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	110	mbf	Alts. 2,3,4,6
			143	mbf	Alt. 5

Harvest Treatment: Alternatives 2, 3, 4 and 6: 50-66% retention, remove trees dispersed throughout the unit
Alternative 5: 20-30% retention, leave scattered trees

Logging/Transportation Systems: Cable yarding / Road 6286 runs through the west part of the unit.

Resource Concerns & Mitigations

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

Concern: A portion of the unit is visible from Sumner Strait.

Mitigation: Retention of 20% of the stand and the unit size will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees displaying windfirm characteristics will be favored for retention.

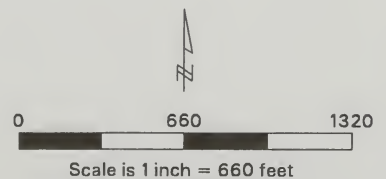
Woodpecker Unit 141 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	148	Unit Size :	12 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 1798-237	Volume strata:	0	acres high	
VCU:	452		12	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	90	mbf	Alts. 2,3,4,5,6

Harvest Treatment: 20-30% retention, leave scattered trees

Logging/Transportation Systems: Cable yarding /one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: A temporary road provides access to this unit from Road 40003.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows.

Mitigation: Retention of 20% of the stand and the unit size (when combined with Unit 150) will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Retain a 100-foot windfirm buffer of approximately 25 dispersed small diameter trees on the eastern half of the northern boundary. Select trees with windfirm characteristics and make the unit boundary irregular in shape. The western boundary will be adjacent to a muskeg.

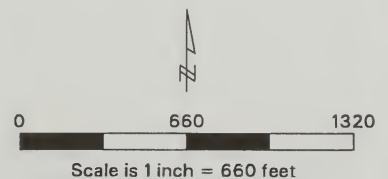
Woodpecker Unit 148 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	148a	Unit Size :	8 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 1798-237	Volume strata:	8	acres high	
VCU:	452		0	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	40	mbf	Alts. 2,3,4,5,6

Harvest Treatment: Alternatives 2, 3, 4 and 6: 75% retention, remove trees in clumps or dispersed throughout the unit
Alternative 5: 20-30% retention, remove trees in clumps or dispersed throughout the unit

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: A temporary road provides access to this unit from Road 40003.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows.

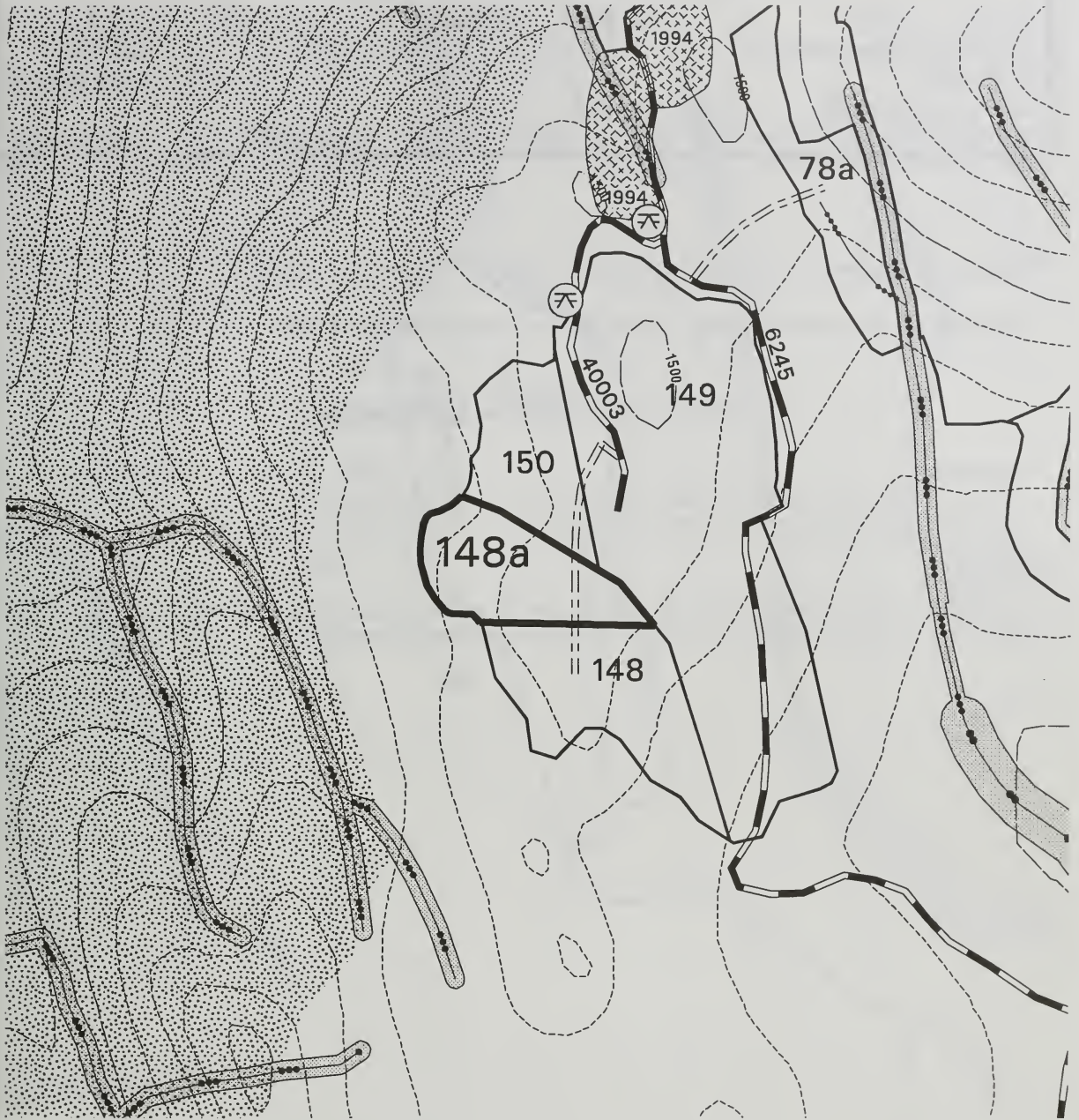
Mitigation: Retention of 20% of the stand and the unit size will meet the Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees displaying windfirm characteristics will be favored for retention.

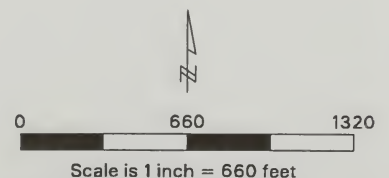
Woodpecker Unit 148a Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	149	Unit Size :	42 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 1798-237	Volume strata:	0		acres high
VCU:	448		39		acres medium
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	480	mbf	Alts. 2,3,4,5,6

Harvest Treatment: 50-66% retention, remove trees in 3 acre or less corridors

Logging/Transportation Systems: Cable yarding / Roads 6245 and 40003.

Resource Concerns & Mitigations

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

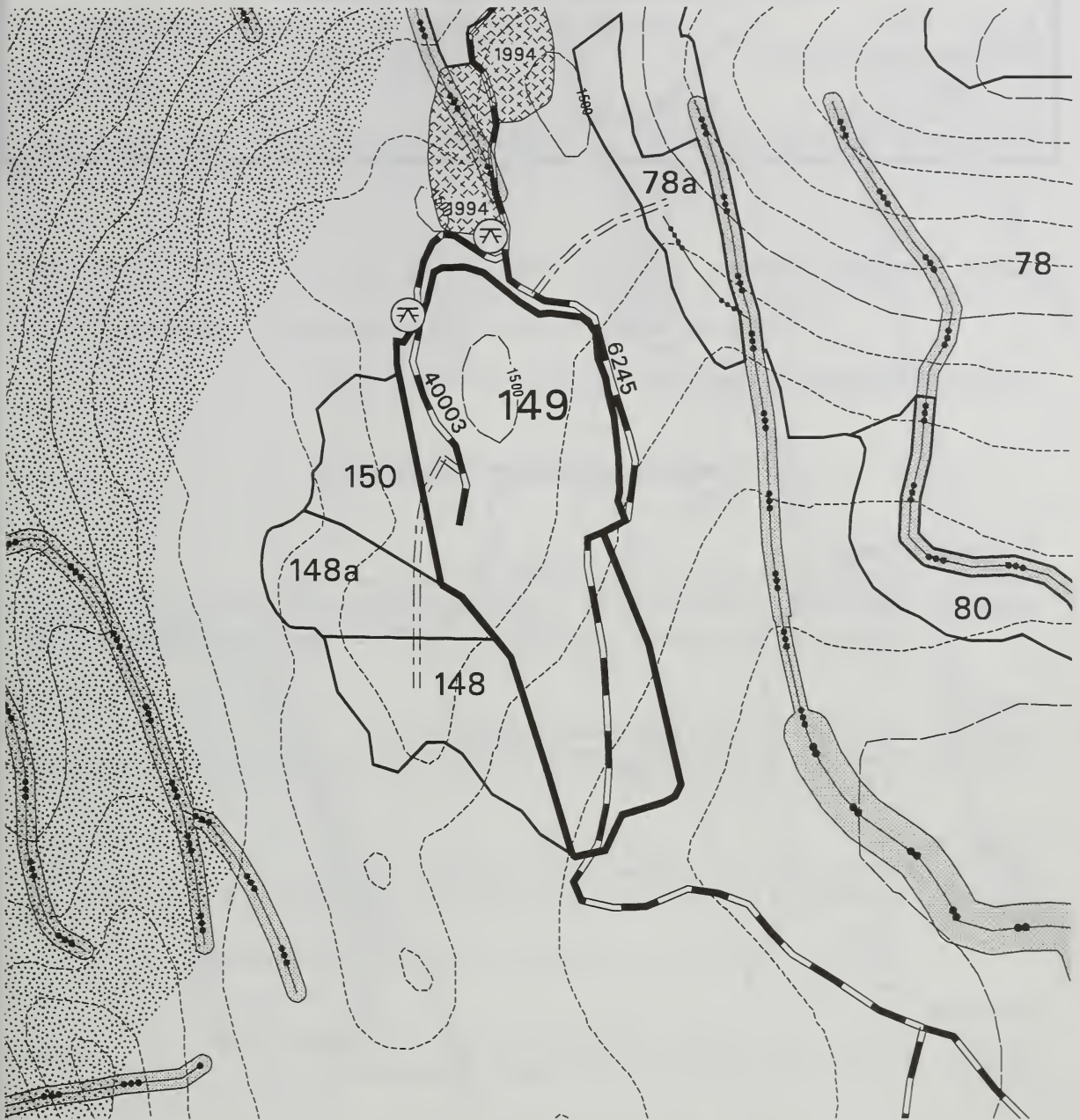
Mitigation: Trees displaying windfirm characteristics will be favored for retention.

Recreation

Concern: This unit may be partially visible from the proposed trail and picnic area.

Mitigation: Retention of trees in the unit will lessen the visual impacts.

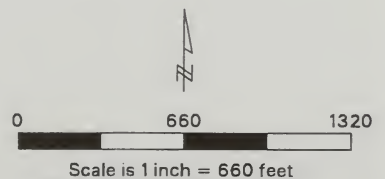
Woodpecker Unit 149 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	150	Unit Size :	8 acres	Alternative:	2,3,4,5,6
Aerial Photo:	1998 1798-237	Volume strata:	0	acres high	
VCU:	448		8	acres medium	
Land Use Designation:	Scenic Viewshed				
Within Inventoried Roadless Area?	No	Estimated timber volume:	20	mbf	Alts. 2,3,4,5,6

Harvest Treatment: Alternatives 2, 3, 4 and 6: 75% retention, remove trees dispersed throughout the unit
Alternative 5: 20-30% retention, leave trees scattered throughout the unit

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: A temporary road provides access to this unit from Road 40003.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Scenery

Concern: A portion of the unit is visible from Wrangell Narrows.

Mitigation: Retention of 20% of the stand and the unit size (when combined with Unit 148a) will meet the Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Alternatives 2, 3, 4, and 6: Trees with decay or dwarf mistletoe will be favored for removal.

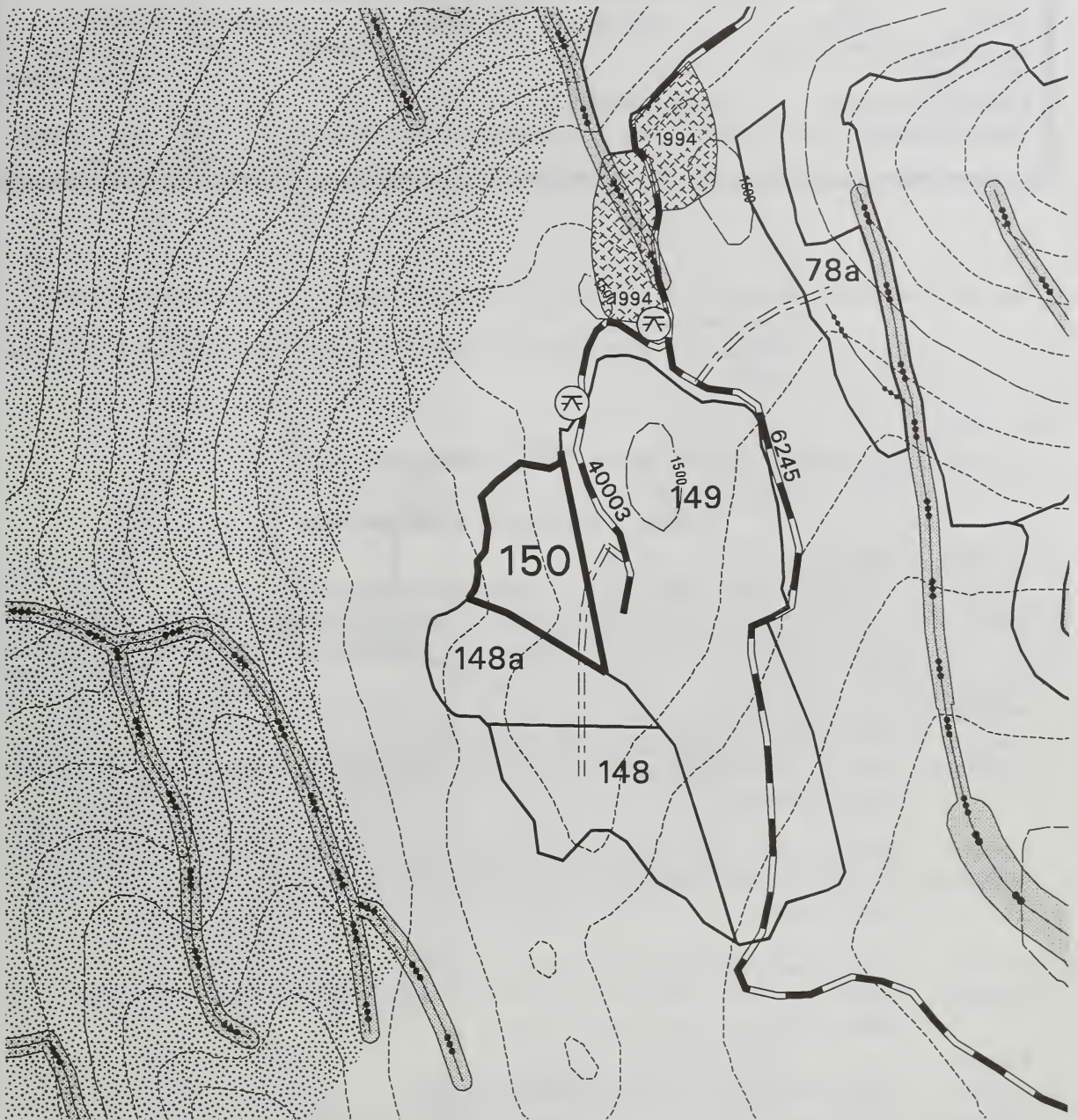
Alternative 5: Trees displaying windfirm characteristics will be favored for retention.

Recreation

Concern: This unit may be partially visible from the proposed trail and picnic site.

Mitigation: Retention of trees in the unit will lessen the visual impacts.

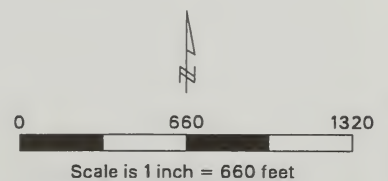
Woodpecker Unit 150 Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 161a	Unit Size : 21 acres	Alternative: 2,3,4,5,6
Aerial Photo: 1998 2198-25	Volume strata: 20	acres high
VCU: 452		1 acres medium
Land Use Designation: Scenic Viewshed		
Within Inventoried Roadless Area? No	Estimated timber volume: 150	mbf Alts. 2,3,4,6
	290	mbf Alt. 5

Harvest Treatment: Alternatives 2, 3, 4 and 6: 75% retention, remove trees in clumps or scattered throughout the unit
 Alternative 5: 50-66% retention, remove trees in clumps or dispersed throughout the unit

Logging/Transportation Systems: Shovel yarding / one temporary road

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: A temporary road provides access to this unit from Road 6245.

Mitigation: After harvest, remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil.

Wildlife

Concern: The unit contains high value marten habitat.

Mitigation: The proposed harvest treatments meet marten standards and guidelines throughout the unit in all alternatives.

Concern: The unit is adjacent to a beach buffer and the South Blind Slough Old-growth Reserve.

Mitigation: The unit boundary was adjusted to maintain a 1000' beach buffer and to avoid the Old-growth Reserve.

Concern: The unit contains high value deer winter habitat.

Mitigation: Retention of 50% of the stand will maintain winter habitat of a slightly lower quality. The stand will recover to full value in 40 years.

Scenery

Concern: Most of the unit is visible from South Blind Slough.

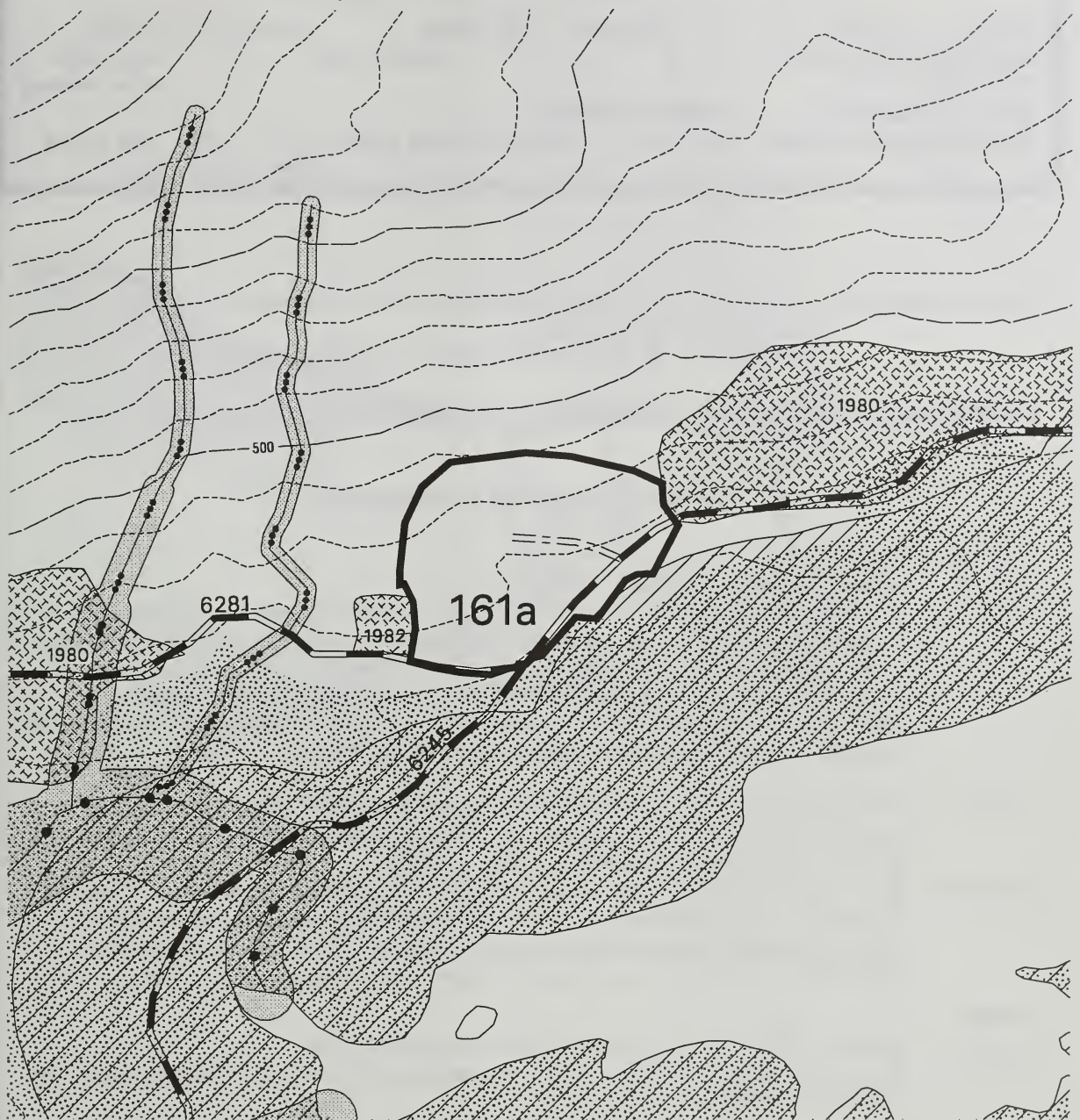
Mitigation: Retention of at least 50% of the stand, the size of the unit, and screening from the small island in South Blind Slough will meet the Partial Retention VQO.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Alternative 2, 3, 4, and 6: Trees with decay or dwarf mistletoe will be favored for removal.
 Alternative 5: Trees displaying windfirm characteristics will be favored for retention.

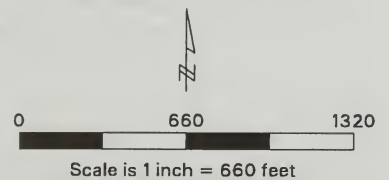
Woodpecker Unit 161a Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #: 166a	Unit Size : 14 acres	Alternative: 2,3,4,5,6
Aerial Photo: 1998 2198-23	Volume strata: 6	acres high
VCU: 452		6 acres medium
Land Use Designation: Modified Landscape		
Within Inventoried Roadless Area? No	Estimated timber volume: 110	mbf Alts. 2,3,4,6
	190	mbf Alt. 5

Harvest Treatment: Alternatives 2, 3, 4 and 6: 50-66% retention, remove trees in clumps or dispersed throughout the unit
 Alternative 5: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Shovel yarding / one temporary road and Road 6280

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class II, Channel Type MC2

Mitigation: No commercial timber harvest within 100'. No programmed commercial timber harvest within the remainder of the Riparian Management Area, defined as the channel side-slope break. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection). Prevent in-stream disturbance from road construction over stream. Apply BMP 14.6 (Timing Restrictions for Construction Activities) for road construction over fish streams.

Concern: A temporary road provides access to this unit from Road 6280. Road 6280 is presently closed to traffic due to alder growth on the roadway, and will be reopened for timber harvest. The temporary road crosses a Class II stream.

Mitigation: After harvest, close Road 6280, remove drainage structures and add waterbars as needed. Remove all drainage structures from the temporary road to restore natural drainage patterns. Add additional waterbars as needed, and grass seed all areas of exposed soil. Apply BMP 14.6 for in-stream construction (installation and removal of culvert).

Wildlife

Concern: The south block of the unit contains high value marten habitat.

Mitigation: The proposed harvest treatments will meet marten standards and guidelines throughout the unit in all alternatives.

Concern: The unit is adjacent to a beach buffer.

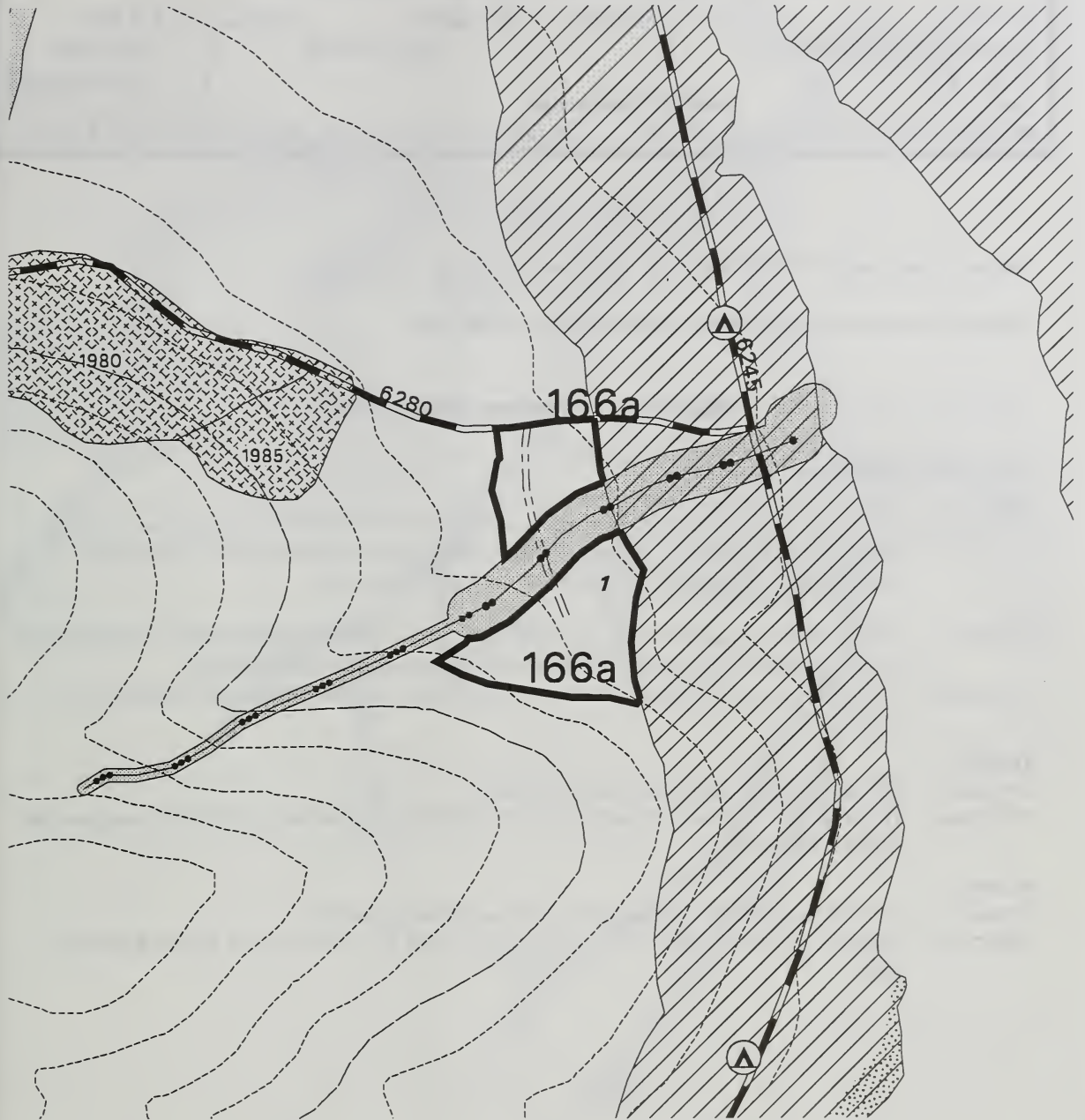
Mitigation: The unit boundaries were adjusted to maintain a 1000' beach buffer.

Scenery

Concern: Most of the unit is visible from South Blind Slough.

Mitigation: Retention of at least 20 % of the stand, the unit size, and screening from the small island in the foreground will meet the Partial Retention VQO.

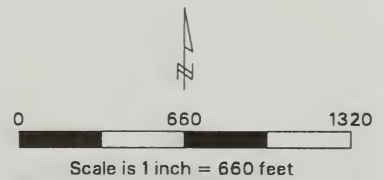
Woodpecker Unit 166a Alternative 2,3,4,5,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	174	Unit Size :	13 acres	Alternative:	2,3,4,6
Aerial Photo:	1999 2398-154	Volume strata:	13	acres high	
VCU:	452		0	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	300	mbf	Alts. 2,3,4,6

Harvest Treatment: 20-30% retention, leave trees in clumps or corridors

Logging/Transportation Systems: Cable yarding / Road 6280

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Stream 1 is Class III, Channel Type HC1.

Mitigation: No commercial timber harvest within the Riparian Management Area, defined as the V-notch. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16 (Stream Channel Protection).

Concern: Road 6280 serves as the lower unit boundary. Road 6280 is presently closed to traffic due to alder growth on the roadway, and will be reopened for timber harvest.

Mitigation: After harvest, close Road 6280, remove all drainage structures, and add waterbars as needed.

Wildlife

Concern: The unit contains high value marten habitat.

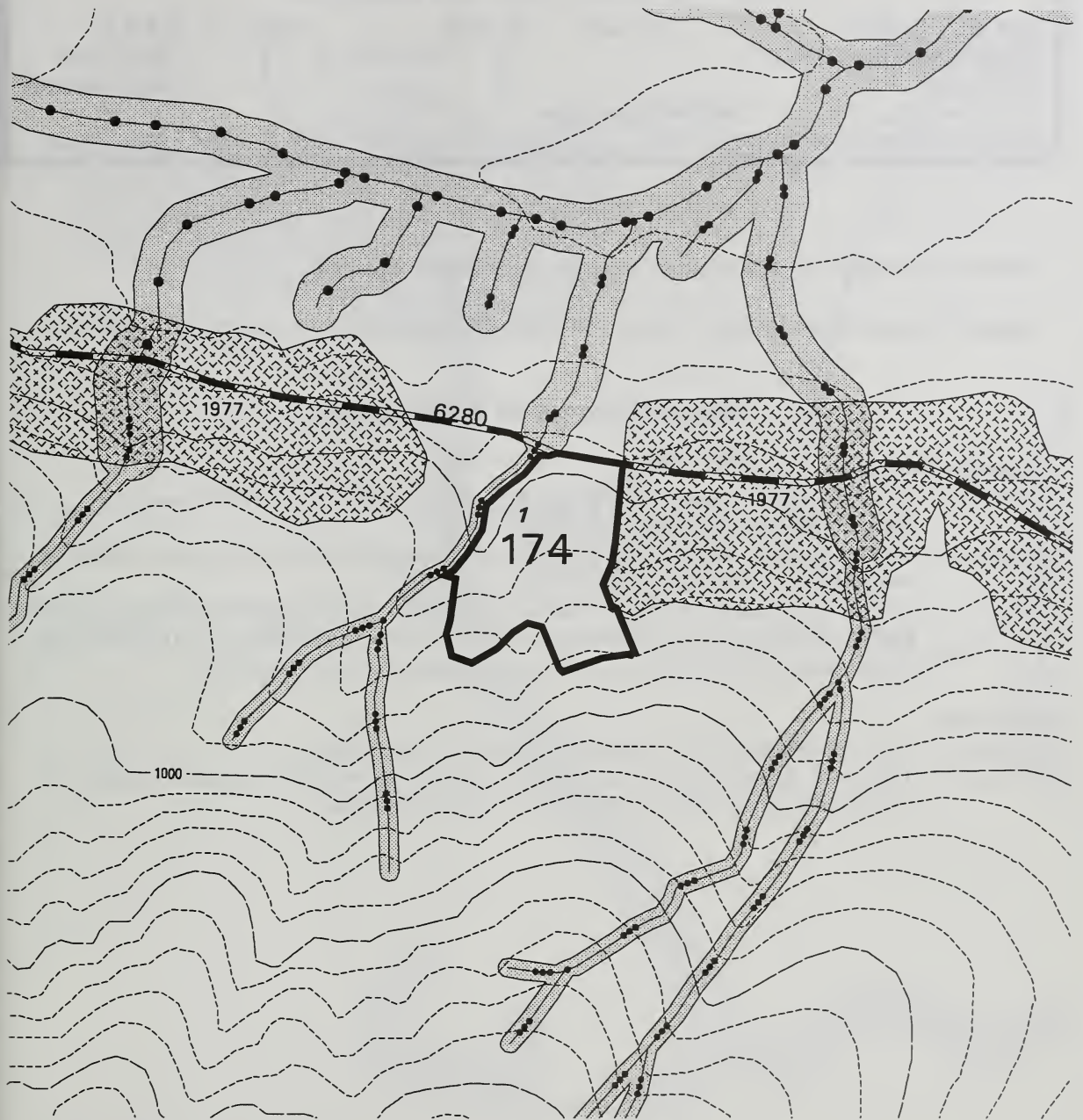
Mitigation: The proposed harvest treatment will meet marten standards and guidelines throughout the unit in all alternatives.

Scenery

Concern: The unit is visible in the background from Crystal Mountain.

Mitigation: Retention of at least 20 % of the stand and the unit size will meet the Partial Retention VQO.

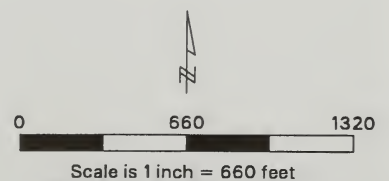
Woodpecker Unit 174 Alternative 2,3,4,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Woodpecker Project Area Unit Card Narrative

Unit #:	187	Unit Size :	5 acres	Alternative:	2,3,4,6
Aerial Photo:	1999 2398-152	Volume strata:	0	acres high	
VCU:	452		5	acres medium	
Land Use Designation:	Modified Landscape				
Within Inventoried Roadless Area?	No	Estimated timber volume:	70	mbf	Alts. 2,3,4,6

Harvest Treatment: 20-30% retention, leave trees scattered or in clumps

Logging/Transportation Systems: Cable yarding / Road 6246 serves as the upper unit boundary.

Resource Concerns & Mitigations

Watershed/Fisheries

Concern: Streams 1 and 2 are Class IV, Channel Type HC0.
Stream 3 is Class II, Channel Type HC6

Mitigation: *Streams 1 and 2:* Apply BMP 13.16 (Stream Channel Protection). Use partial suspension and split line yarding where feasible.

Stream 3: No commercial timber harvest within 100'. No programmed commercial timber harvest within the Riparian Management Area, or 100'. Apply BMPs 12.6 (Riparian Area Designation and Protection), 12.6a (Buffer Design and Layout), and 13.16.

Vegetation

Concern: Location makes the stand susceptible to potential windthrow.

Mitigation: Trees with decay or dwarf mistletoe will be selected for removal. A windfirm buffer will be located along the Class II stream on the western boundary.

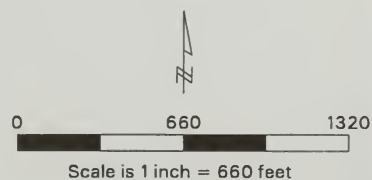
Woodpecker Unit 187 Alternative 2,3,4,6



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Old-growth Reserves
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams
- AHMU-Class 4 Streams
- Existing Classified Roads

- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval
- Stream Numbers
- Proposed Dispersed Picnic Site
- Proposed Dispersed Camp Site

- Existing Picnic Site
- Existing Turnout with Camp Site



Road Cards

Road Management Objectives

Purpose and Use

The road management objectives (RMOs) presented in this appendix establish the intended purpose, and display design, maintenance, and operation criteria (as per FSH 7709.55), for each National Forest System road in the Woodpecker Project Area. The information on the RMO form is part of a permanent database that can be updated periodically as access needs, issues, and budgets change. Proposed new roads and existing roads with planned reconstruction or maintenance have a second section with site specific design criteria that will be used during design, construction, and initial monitoring of any road work proposed in this document. For proposed new roads, a map is also included showing the proposed road location and identification of areas discussed in the site-specific design criteria. See Figure B-2 for a map of the Woodpecker Project Area showing both existing and proposed road locations.

General Design Criteria

The general design criteria provide various descriptions of the type of road, and the intended purpose and future use of the road. From this information, the maintenance and operation criteria can be developed. This information is critical for determining whether a Corps of Engineer's permit will be required for segments of road crossing wetlands. Roads built solely for silvicultural purposes do not require these permits.

Maintenance Criteria

The maintenance criteria include a discussion of how the road is to be maintained, centering on three strategies:

- **Active:** provide frequent cleanout of ditches and catch basins to assure controlled drainage. Control roadside brush to maintain sight distance. Grade as needed to maintain crown and running surface.
- **Storm Proof:** provide water bars, rolling dips, out sloping, etc., to assure controlled runoff until any needed maintenance can be performed on the primary drainage system. Control roadside brush to maintain passage.
- **Storage:** remove or bypass all drainage structures to restore natural drainage patterns, add water bars as needed to control runoff, revegetate.

The **active** maintenance strategy is applied to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. These roads are assigned Maintenance Level 3. The active maintenance strategy will also at times

be applied to roads intended only for use by high clearance vehicles, or Maintenance Level 2 roads. This will usually be the case when log haul is expected in the near future.

An intermediate maintenance strategy is to **storm proof**, or stabilize, the road by providing roadway features such as drivable water bars, and out sloping to control runoff in case the primary drainage system of culverts and ditches is overwhelmed during a storm event. Each culvert will be evaluated as to where the water would go if the culvert were to fail to carry the high flow. A water bar or out slope at this location will minimize the potential of erosion of long stretches of ditch line or roadway. This is intended to be the primary maintenance strategy applied to roads assigned Maintenance Level 2.

Storage is intended to be the primary maintenance strategy on intermittent use roads during their closure cycle. Road Storage is defined in FSH 5409.17 as “the process/action of closing a road to vehicle traffic and placing it in a condition that requires minimum maintenance to protect the environment and preserve the facility for future use”. In this strategy, bridges and culverts on live streams are completely removed to restore natural drainage patterns. Cross drains and ditch relief culverts will be bypassed with deep water bars but may be left in place to minimize the cost of re-using these roads in the future. Roads in storage are left in a self-maintaining state in order to use more road maintenance funds on the open drivable roads on the island. Maintenance Level 1, closure and basic custodial maintenance, is assigned.

The interdisciplinary team went through a process to define road management considerations, leading to a maintenance strategy to be applied to each road in the Woodpecker Project Area. Figure B-2 shows the desired future condition of each road in the project area as a result of the process. The work needed to meet the objectives can be accomplished on the roads along the haul route in these timber sales. Work needed on other roads to meet the desired objective will be scheduled as funding allows.

Operation Criteria

The operation criteria include a presentation of each of the five traffic management strategies identified in FSM 7731 (encourage, accept, discourage, prohibit, and eliminate) to be applied to different traffic classes on each road. The traffic management narrative describes what actions will be taken in order to apply each strategy. For example, if the strategy “eliminate” is prescribed for standard passenger and high clearance vehicles, the narrative describes the method to accomplish this, such as removal of stream crossing structures, gating, etc.

Site Specific Design Criteria

The site-specific design criteria include road location objectives, wetland information, erosion control, proposed rock borrow sources and all streams within the project area with proposed construction or rehabilitation of stream crossing structures. The road location discussion documents why the road is proposed in a specific location, control points, and alternative routes considered (if any). A main location objective is to avoid crossing wetlands. At times, however, it is necessary to cross wetlands in order to minimize the total impact of a road. These areas are discussed, documenting areas of mapped wetlands and why the road is located across these areas. All fish streams are identified, as well as non-fish streams with sufficient flow to require a 48" or larger culvert. The stream crossing information describes the stream in enough detail to lead to a preliminary crossing structure recommendation and to evaluate the adequacy of the proposed structure.



Woodpecker Project Area
Figure B-2
Recommended Road
Maintenance Levels

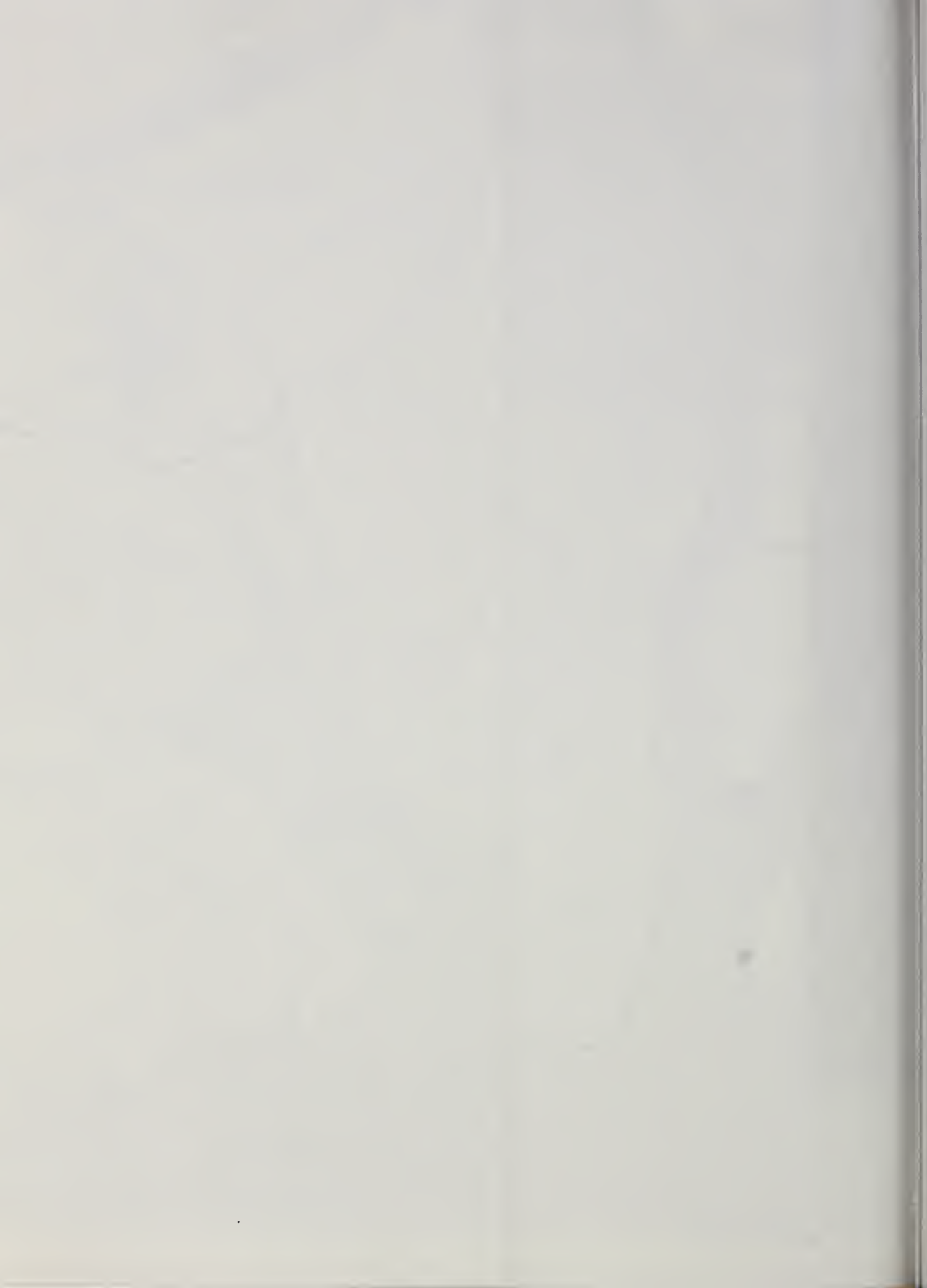
LEGEND

- Closed Roads in Storage
- Stormproofed, High Clearance Road
- Active Maintenance, All Vehicle Road
- Project Area Boundary
- Streams
- 500ft Contours
- Non-National Forest System Lands
- Lakes/Saltwater

Appendix B-143

0 5280 10560

Scale is 1 inch = 5280 feet



GLOSSARY for RMO FORM VALUES:

Project	The name of the project or NEPA document that addresses the environmental impacts of this road.
Land Use Designation	SV = Scenic Viewshed; ML = Modified Landscape SA = Special Interest Area; OG = Old-growth Habitat Reserve TP = Timber Production
Route Number	Normally only long-term Forest Development Roads are assigned road numbers.
Route Name	All long-term roads assigned numbers will be given names.
Termini	The beginning and ending location of the road.
Length (miles)	Best estimate of the length of road.
Functional Class	Arterial (A) = primary; Collector (C) = secondary; or Local (L) = tertiary.
Service Life	Short-term (less than 10 years) or Long-term. Long-term used in conjunction with Entry Cycle to be Long-term Constant (LC) or Long-term Intermittent (LI).
Width (ft)	Travelway width of road. Normal values are 14 ft and 16ft.
Design Speed (mph)	10, 20, or 30 mph.
Critical Vehicle	The largest vehicle (by weight, size or unique shape) whose limited use on the road is necessary to complete the planned activity.
Design Vehicle	The vehicle frequently using the road that determines the minimum standard for a particular design element - passenger car, pick-up, logging truck, lowboy, rock truck, or yarding equipment.
Intended Purpose	Brief description of why this road is needed.
Maintenance Levels	Levels 1 through 5:
• Operational (Current Condition)	Level 1 - Closed, basic drainage maintenance Level 2 - High Clearance Vehicles
• Objective (Desired Future Condition)	Level 3 - All Vehicles, low user comfort Level 4 - All Vehicles, moderate user comfort Level 5 - All Vehicles, high user comfort
Alaska Forest Practices Act	Road status as specified by the Alaska Forest Resources and Practices Regulations, 1993; either Active, Inactive, or Closed.
Highway Safety Act	Road open to general public without restrictive gates, prohibitive signs, or regulation other than restrictions based on size, weight, or class of registration; Yes or No.
Travel Management Strategy	Several values apply; see the Travelway Classification/Operation Guide. Lists classes of traffic which will be encouraged, accepted, discouraged, prohibited, or eliminated.

Road Management Objective

Project		System	Land Use Designation	
Woodpecker		Mitkof	SA, OG, ML, SV	
Route No.	Route Name	Begin Termini	End Termini	
6245	Woodpecker	MP 20.5 Mitkof Hwy	MP 18.4	
Begin MP	Length	Status	Map Quarter Quad	Photo year, roll, photos
0.0	18.4	Existing	PSG C-3	'98 1798-233, 235, 237, 2198-14-27,33, 2098-153, '99 2398-25-27, 2398-92, 2398-96

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Speed	Critical Vehicle	Design Vehicle
Collector	LC	Crushed gravel/shot rock	16'	20	Lowboy	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain open to all traffic. Provides access to Ohmer Creek Loop Trail at milepost 0.1.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	18.4	3 (open to standard passenger vehicles)	3	Active

Maintenance Narrative

Active: Provide frequent cleanout of ditches and catch basins to assure controlled drainage. Control roadside brush, grade as needed to maintain crown and running surface.

Operation Criteria

Highway Safety Act:	Yes	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	N/A	
	Accept:	All vehicles, ATVs	
	Discourage:	N/A	
	Prohibit:	N/A	
	Eliminate:	N/A	

Travel Management Narrative

Public travel on this road occurs year round when snow conditions permit. Receives high use during deer and moose hunting seasons in the fall, used for firewood access, berry picking, sightseeing from May through November. Crushed gravel surfacing currently to milepost 7, continue crushed gravel to junction of Road 40003 at milepost 15.3.

Road Management Objectives

Site Specific Design Criteria Road 6245

EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8). A small roadside slide occurred in October 1999 on this road near milepost 15. The road is currently closed at the location of the slide. During 2000, the slide area was surveyed to determine the cause and prepare a plan for reconstructing the road through the area. The contract to repair the road is in progress.

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6).

STREAM CROSSINGS: There are five sites that were identified in the road condition survey where AHMU Class II fish passage was identified as a concern. Refer to the Mitkof Island Road Analysis for further information on individual sites. Further field data is needed to identify the extent and nature of any problems. The locations, existing structures, possible barriers at each site, amount of upstream fish habitat, and fish presence are listed below:

Location	Existing Structures	Fish and Fish Habitat
MP <u>1.256</u> AHMU II Channel Type <u>HC</u>	36" CMP, 2.8' perch, 4.6% culvert gradient, no timing required	210 m ² habitat, cutthroat upstream and downstream
MP <u>1.503</u> AHMU II Channel Type <u>HC</u>	2-36" CMPs, 2' perch, 4.6% culvert gradient, no timing required	555 m ² habitat, cutthroat and Dolly Varden upstream and downstream
MP <u>4.962</u> AHMU II Channel Type <u>HC</u>	36" CMP, 2.9' perch, 4.6% culvert gradient, no timing required	555 m ² habitat, cutthroat and Dolly Varden upstream and downstream
MP <u>7.052</u> AHMU II Channel Type <u>HC</u>	48" CMP 3.3% culvert gradient, no timing required	30 m ² habitat, cutthroat upstream and downstream
MP <u>8.562</u> AHMU II Channel Type <u>HC</u>	48" CMP 2.8' perch, 6.7% culvert gradient, no timing required	251 m ² habitat, cutthroat upstream and downstream

The sites listed above are included in a contract to replace or repair the structures to provide fish passage, with the exception of the site at milepost 7.052. This site was given a lower priority than other sites on the island that have more upstream habitat. At this time, the available funding will be used to repair the higher priority sites.

Road Management Objective

Project			System	Land Use Designation
Woodpecker			Mitkof	SA, OG, ML
Route No.	Route Name		Begin Termini	End Termini
6246	West Fork Ohmer Creek		MP 0.8 Rd 6245	MP 2.81
Begin MP	Length	Status	Map Quarter Quad	Photo year, roll, photos
0.0	2.81	Existing	PSG C-3	'98 2098-154, 2198-19-20

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LC	Crushed gravel/shot rock	14'	10	Lowboy	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain open to all vehicles to MP 1.50. Beyond this point the road will be open to high clearance vehicles. Provides access to Ohmer Creek Loop Trail at milepost 0.33. Currently road has crushed gravel to milepost 0.3, desired future condition is to place crushed gravel to junction of Road 40006 at milepost 1.5.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.50	3 (open to standard passenger vehicles)	3	Active
1.50	2.81	2 (open to high clearance vehicles)	2	Inactive

Maintenance Narrative

Active: Provide frequent cleanout of ditches and catch basins to assure controlled drainage. Control roadside brush, grade as needed to maintain crown and running surface.

Storm proof: provide waterbars, rolling dips to assure controlled runoff until any needed maintenance can be performed on the primary drainage system, control roadside brush.

Operation Criteria

Highway Safety Act:	Yes to milepost 1.5	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	All licensed high clearance vehicles, bicycles, and hikers	
	Accept:	Off highway vehicles	
	Discourage:	Standard passenger vehicles beyond MP 0.33	
	Prohibit:	N/A	
	Eliminate:	N/A	

Travel Management Narrative

Public travel on this road occurs year round when snow conditions permit. Receives high use during deer and moose hunting seasons in the fall, used for firewood and free use timber access, berry picking, and sightseeing from May through November. Access to unimproved trail to Crystal Mountain provided by this road.

Road Management Objective

Project Woodpecker		System Mitkof	Land Use Designation ML
Route No. 6280	Route Name Crystal Lake	Begin Termini MP 1.4 Rd. 6245	End Termini MP 2.58
Begin MP 0.0	Length 2.58	Status Existing	Map Quarter Quad PSG C-3
Photo year, roll, photos '98 2098-153, 2198-23			

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LI	Shot rock	14'	10	Logging truck	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain closed to licensed vehicles to reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	2.58	1 (closed)	1	Closed

Maintenance Narrative

Storage: remove or bypass problem drainage structures to restore natural drainage patterns, add waterbars as needed to control runoff, re-vegetate.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers Motorized vehicles N/A Standard passenger and high clearance vehicles	

Travel Management Narrative

This road is currently closed with alder growth. It may be periodically opened for timber access, however desired future condition of this road is storage.

Road Management Objectives

Site Specific Design Criteria Road 6280

EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6).

STREAM CROSSINGS: There is some bedload movement in the stream. A 23-foot long log stringer bridge currently at this site is not safe for traffic. Verify fish presence prior to establishing timing restraints for construction. This road is proposed for short-term entry for timber removal, followed by storage, using temporary bridge structure.

Location	Description	Structure
MP <u>1.2</u> AHMU <u>II</u> Channel Type <u>HC3</u>	BF Depth <u>1.5 ft</u> Incision <u>6 ft</u> Substrate <u>cobble</u> BF Width <u>10 ft</u>	Gradient <u>14%</u> Structure <u>bridge</u>

Road Management Objective

Project Woodpecker		System Mitkof	Land Use Designation SV, ML
Route No. 6281	Route Name East Sumner Mountain	Begin Termini MP 3.1 Rd. 6245	End Termini MP 2.7
Begin MP 0.0	Length 2.7	Status Existing	Map Quarter Quad PSG C-3
Photo year, roll, photos '98 2198-25, '99 2398-154-155			

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LI	Shot rock	14'	10	Logging truck	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain closed to licensed vehicles beyond proposed camping area due to alder growth to reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.0	0.5	1 (closed)	2	Closed
0.5	2.7	1	1	

Maintenance Narrative

Storage beyond milepost 0.5, remove or bypass problem drainage structures to restore natural drainage patterns, add waterbars as needed to control runoff, revegetate.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	N/A	
	Accept:	Hikers	
	Discourage:	Motorized vehicles	
	Prohibit:	N/A	
	Eliminate:	Standard passenger and high clearance vehicles	

Travel Management Narrative

Accessible from the city of Petersburg, public travel on this road is currently limited due to roadside alder growth. The road is used by hunters in the fall. The road may be periodically opened for timber access, however the desired future condition of this road is storage beyond the proposed camping area at milepost 0.5.

Road Management Objectives

Site Specific Design Criteria Road 6281

EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6).

STREAM CROSSINGS:

MP <u>0.4</u> AHMU <u>II</u> Channel Type <u>HC3</u> BF Width <u>2 ft</u>	BF Depth <u>0.5 ft</u> Incision <u>2 ft</u> Substrate <u>cobble</u>	Gradient <u>8%</u> Structure <u>CMPA</u>
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Narrative: Verify fish presence prior to establishing timing restraints for construction.

MP <u>0.8</u> AHMU <u>I</u> Channel Type <u>HC1</u> BF Width <u>2 ft</u>	BF Depth <u>0.5 ft</u> Incision <u>2 ft</u> Substrate <u>cobble</u>	Gradient <u>6%</u> Structure <u>CMPA</u>
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Narrative: Verify fish presence prior to establishing timing restraints for construction.
This road is proposed for short-term entry for timber removal, followed by storage.

Road Management Objective

Project		System	Land Use Designation	
Woodpecker		Mitkof	SV, ML	
Route No.	Route Name	Begin Termini	End Termini	
6282	Sumner Pass	MP 4.1 Rd. 6245	MP 4.36	
Begin MP	Length	Status	Map Quarter Quad	Photo year, roll, photos
0.0	4.36	Existing	PSG C-3	'98 2198-26, 2198-37 '99 2398-98-99, 2398-90-91

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LC	Shot rock	14'	10	Logging truck	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain open to standard passenger vehicles.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	4.36	3 (open to standard passenger vehicles)	3	Active

Maintenance Narrative

Active: Provide frequent cleanout of ditches and catch basins to assure controlled drainage. Control roadside brush, grade as needed to maintain crown and running surface.

Operation Criteria

Highway Safety Act:	Yes	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	N/A	
	Accept:	Standard passenger vehicles	
	Discourage:	N/A	
	Prohibit:	N/A	
	Eliminate:	N/A	

Travel Management Narrative

Public travel on this road occurs year round when snow conditions permit. Receives high use during deer and moose hunting seasons.

Road Management Objectives

Site Specific Design Criteria Road 6282

Three road fill failures occurred near milepost 3.7 in the fall of 1999 and 2000. The road is currently closed to traffic beyond the site due to the failures. The area is scheduled for a survey in 2001 for preparation of a plan to reconstruct the road through the area.

EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6).

STREAM CROSSINGS:

MP <u>2.0</u> AHMU <u>II</u> Channel Type <u>MC2</u> BF Width <u>30 ft</u>	BF Depth <u>3.0 ft</u> Incision <u>20 ft</u> Substrate <u>bedrock, cobble</u>	Gradient <u>6%</u> Structure <u>bridge</u>
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Narrative: A 61-foot long log stringer bridge currently at this site will be replaced with a permanent bridge. No in-stream work will be allowed from March 1 through July 18.

Road Management Objective

Project Woodpecker		System Mitkof		Land Use Designation SV, ML	
Route No. 6283	Route Name South Sumner Mountain	Begin Termini MP 5.2 Rd. 6245		End Termini MP 1.35	
Begin MP 0.0	Length 1.35	Status Existing	Map Quarter Quad PSG C-3	Photo year, roll, photos '98 2198-26-27	

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LI	Shot rock	14'	10	Logging truck	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain closed to licensed vehicles after use to reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.35	1 (closed)	1	Closed

Maintenance Narrative

Storage: remove or bypass problem drainage structures to restore natural drainage patterns, add waterbars as needed to control runoff, revegetate.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	N/A	
	Accept:	Hikers	
	Discourage:	Motorized vehicles	
	Prohibit:	N/A	
	Eliminate:	Standard passenger and high clearance vehicles	

Travel Management Narrative

Public travel on this road is currently limited to a few high clearance vehicles due to rough surface conditions. May be periodically opened for timber access, however desired future condition for this road is storage.

Road Management Objectives

Site Specific Design Criteria Road 6283

EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6).

STREAM CROSSINGS:

MP <u>0.9</u> AHMU <u>2</u> Channel Type <u>HC1</u> BF Width <u>10 ft</u>	BF Depth <u>1.5 ft</u> Incision <u>6 ft</u> Substrate <u>bedrock, cobble</u>	Gradient <u>10%</u> Structure <u>bridge</u>
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Narrative: Log stringer bridge at this site was removed after past timber harvest. This road is proposed for short-term entry for timber removal, and then will be placed into storage category. Use a temporary bridge structure. No in-stream work will be allowed from March 1 through July 18.

Road Management Objective

Project Woodpecker		System Mitkof		Land Use Designation SV, ML, TP	
Route No. 6284	Route Name West Sumner Mountain	Begin Termini MP 13.3 Rd. 6245		End Termini MP 1.1	
Begin MP 0.0	Length 1.1	Status Existing	Map Quarter Quad PSG C-3	Photo year, roll, photos '99 2398-27-28	

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LI	Shot rock	14'	10	Logging truck	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain closed to licensed vehicles beyond the removed bridge at MP 0.05 to reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.1	1 (closed)	1	Closed

Maintenance Narrative

Storage: remove or bypass problem drainage structures to restore natural drainage patterns, add waterbars as needed to control runoff, re-vegetate.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers Motorized vehicles N/A Standard passenger and high clearance vehicles	

Travel Management Narrative

Public travel on this road is currently limited to hikers and occasional off road vehicles due to bridge removal at MP 0.05. May be periodically opened for timber access, however desired future condition of this road is storage.

Road Management Objective

Site Specific Design Criteria

Road 6284

EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6).

STREAM CROSSINGS:

MP <u>0.05</u> AHMU <u>II</u> Channel Type <u>HC2</u> BF Width <u>30 ft</u>	BF Depth <u>2.5 ft</u> Incision <u>6 ft</u> Substrate <u>bedrock, cobble</u>	Gradient <u>3 to 10%</u> Structure <u>bridge</u>
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Narrative: Log stringer bridge at this site was removed after past timber harvest. This road is proposed for short-term entry for timber removal, and then will be placed into storage category. Use a temporary bridge structure. No in-stream timing is required.

Road Management Objective

Project Woodpecker		System Mitkof		Land Use Designation
Route No. 6285	Route Name Woodpecker Cove	Begin Termini MP 8.5 Rd. 6245	End Termini MP 0.23 Woodpecker Cove	
Begin MP 0.0	Length 0.23	Status Existing	Map Quarter Quad PSG C-3	Photo year, roll, photos '99 2398-95

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Collector	LC	Shot rock	16'	10	Lowboy	Logging Truck

Intended Purpose/Future Use

This is the access road to the Woodpecker Cove LTF. It is used for public access, recreation, general forest management and administration. Road will remain open to all licensed vehicles.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	0.23	3 (open to standard passenger vehicles)	3	Active

Maintenance Narrative

Active: Provide frequent cleanout of ditches and catch basins to assure controlled drainage. Control roadside brush, grade as needed to maintain crown and running surface.

Operation Criteria

Highway Safety Act:	Yes	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: Accept: Discourage: Prohibit: Eliminate:	All licensed vehicles Hikers, bicycles N/A N/A N/A	

Travel Management Narrative

Public travel on this road occurs year round when snow conditions permit.

Road Management Objective

Project		System	Land Use Designation
Woodpecker		Mitkof	SV, ML
Route No.	Route Name	Begin Termini	End Termini
6286	Riva Ridge	MP 14 Rd. 6245	MP 1.6
Begin MP	Length	Status	Map Quarter Quad
0.0	1.6	Existing	PSG C-3
		Photo year, roll, photos	
		'98 1798-238 '99 2398-27-28	

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LC	Shot rock	14'	10	Logging Truck	Logging Truck

Intended Purpose/Future Use

This road is used for public access, recreation, general forest management and administration. The road will remain open to all high clearance vehicles. The road provides access to a possible future site of dispersed camping/picnic area(s).

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.6	2 (open to high clearance vehicles)	2	Inactive

Maintenance Narrative

Storm proof: provide waterbars, rolling dips to assure controlled runoff. Control roadside brush to maintain passage.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: Accept: Discourage: Prohibit: Eliminate:	All licensed high clearance vehicles, bicycles, and hikers Off highway vehicles Standard passenger vehicles N/A N/A	

Travel Management Narrative

Public travel on this road occurs year round when snow conditions permit. The road receives high use during deer hunting season and offers good views of Sumner Strait and Zarembo Island.

Road Management Objective

Site Specific Design Criteria

Road 6286

EROSION CONTROL: A small road fill failure occurred on this road in late 1999 near milepost 1.1. A contract to repair the road is currently in progress. An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6).

Road Management Objective

Project Woodpecker		System Mitkof	Land Use Designation SV
Route No. 6287	Route Name Point Alexander	Begin Termini MP 11.5 Rd. 6245	End Termini MP 1.53
Begin MP 0.0	Length 1.5	Status Existing	Map Quarter Quad PSG C-3
Photo year, roll, photos '99 2398-25, '98 1798-240			

General Design Criteria and Elements

Functional Class Local	Service Life LI	Surface Shot rock	Width 14'	Design Speed 10	Critical Vehicle Logging Truck	Design Vehicle Logging Truck
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Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain closed to all vehicles to reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.53	1 (closed)	1	Closed

Maintenance Narrative

Storage: Road is currently barricaded at beginning. Alder growth has closed road to standard vehicles.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers Off highway vehicles Standard passenger and high clearance vehicles N/A	

Travel Management Narrative

This road is closed to vehicles and is barricaded at the beginning. A tree thinning demonstration project is located along the first mile of the road. Foot traffic will continue.

Road Management Objective

Project Woodpecker		System Mitkof	Land Use Designation SV
Route No. 40003	Route Name Endhaul	Begin Termini MP 15.3 Rd. 6245	End Termini MP 0.33
Begin MP 0.0	Length 0.33	Status Existing	Map Quarter Quad PSG C-3
		Photo year, roll, photos 1998, 1798-237	

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LC	Shot rock	14'	10	Mobile Yarder	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration. The road will remain open to high clearance vehicles. The road provides access to possible future site of a dispersed picnic area.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	0.33	2 (open to high clearance vehicles)	2	Inactive

Maintenance Narrative

Storm proof: provide waterbars, rolling dips to assure controlled runoff. Control roadside brush to maintain passage.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: N/A Accept: All licensed high clearance vehicles, bicycles, and hikers Discourage: Standard passenger vehicle Prohibit: N/A Eliminate: N/A		

Travel Management Narrative

Keep open to high clearance vehicles. Construct and maintain a parking turnout for dispersed picnic area with sufficient space for turning vehicles around on this dead end road.

Road Management Objective

Project		System		Land Use Designation
Woodpecker		Mitkof		ML
Route No.	Route Name	Begin Termini		End Termini
40004	Ridge Run	MP 0.8 Rd. 6286		MP 0.54
Begin MP	Length	Status	Map Quarter Quad	Photo year, roll, photos
0.0	0.54	Existing	PSG C-3	1998, 1798-239

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LC	Shot rock	14'	10	Mobile Yarder	Logging Truck

Intended Purpose/Future Use

Public access, recreation, general forest management and administration.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	0.54	2 (open to high clearance vehicles)	2	Inactive

Maintenance Narrative

Storm proof, install drivable waterbars to aid in controlled drainage, and control brush.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	N/A	
	Accept:	High clearance vehicles and hikers	
	Discourage:	Standard passenger vehicle	
	Prohibit:	N/A	
	Eliminate:	N/A	

Travel Management Narrative

Keep open to high clearance vehicles. The road provides access to a proposed camping site.

Road Management Objective

Project		System		Land Use Designation	
Woodpecker		Mitkof		ML, SA	
Route No.	Route Name	Begin Termini		End Termini	
40006	Snake Ridge	MP 1.5 Rd 6246		MP 1.40 Crystal Mtn. trailhead	
Begin MP	Length	Status	Map Quarter Quad	Photo year, roll, photo	
0.0	1.40	Existing	PSG C-3	1998, 2198-21	

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LC	Shot rock	14'	10	Mobile Yarder	Logging Truck

Intended Purpose/Future Use

This road is used for public access, recreation, general forest management and administration. Provides access to an unimproved trail to the Crystal Mountain alpine area. The current road surface is shot rock. The desired future condition is a crushed rock surface.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.40	2 (open to high clearance vehicles)	3 (open to standard passenger vehicles)	Active

Maintenance Narrative

Active: Provide frequent cleanout of ditches and catch basins to assure controlled drainage. Control roadside brush, grade as needed to maintain crown and running surface.

Operation Criteria

Highway Safety Act:	Yes	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A All licensed high clearance vehicles, bicycles, and hikers Standard passenger vehicle N/A N/A	

Travel Management Narrative

One of the few roads that access higher elevations on the island; provide access to all standard passenger vehicles.

Road Management Objective

Project		System	Land Use Designation
Woodpecker		Mitkof	OG
Route No.	Route Name	Begin Termini	End Termini
40083	Muck	MP 5.6 Rd. 6245	MP 0.8
Begin MP	Length	Status	Map Quarter Quad
0.0	0.8	Existing	PSG C-3
			Photo year, roll, photos
			1998, 2098-149

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LI	Shot rock	14'	10	Logging Truck	Logging Truck

Intended Purpose/Future Use

Constructed in 1975/76 for timber access and general forest management, the road has since grown closed with alder making all but narrow off-road vehicle use difficult. The road will remain closed to licensed vehicles to reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	0.8	1 (closed)	1	Closed

Maintenance Narrative

Storage: remove drainage structures to restore natural drainage patterns, add waterbars as needed to control runoff, revegetate.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	N/A	
	Accept:	Hikers	
	Discourage:	N/A	
	Prohibit:	N/A	
	Eliminate:	Motorized vehicles	

Travel Management Narrative

Road is closed with alder growth. Remove drainage structures, keep road closed to motor vehicles. This road is located within Forest Plan South Blind Slough OGR.

Road Management Objective

Project Woodpecker		System Mitkof	Land Use Designation SV
Route No. 6282	Route Name Sumner Pass	Begin Termini MP 4.36 Rd 6282	End Termini MP 11 Rd 6245
Begin MP 4.36	Length 0.75	Status Planned	Map Quarter Quad PSG C-3
Photo year, roll, photos '99 2398-28-30, 2398-100-101			

General Design Criteria and Elements

Functional Class Local	Service Life LC	Surface Shot rock	Width 14'	Design Speed 10	Critical Vehicle Logging truck	Design Vehicle Logging Truck
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Intended Purpose/Future Use

Public access, recreation, general forest management and administration. Road will remain open to standard passenger vehicles.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current or Planned Initial Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
4.36	5.11	3 (open to standard passenger vehicles)	3	Active

Maintenance Narrative

Active: Provide frequent cleanout of ditches and catch basins to assure controlled drainage. Control roadside brush, grade as needed to maintain crown and running surface.

Operation Criteria

Highway Safety Act:	Yes	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: N/A Accept: Standard passenger vehicles Discourage: N/A Prohibit: N/A Eliminate: N/A		

Travel Management Narrative

This road segment would complete a loop connecting Roads 6282 and 6245.

Road Management Objective

Site Specific Design Criteria Road 6282

ROAD LOCATION: The road steadily loses elevation between the end of the existing Road 6282 and the intersection with existing Road 6245 at MP 11. The topography is gentle, except for two V-notch control points, one on the north and one on the south entrance into Unit 121.

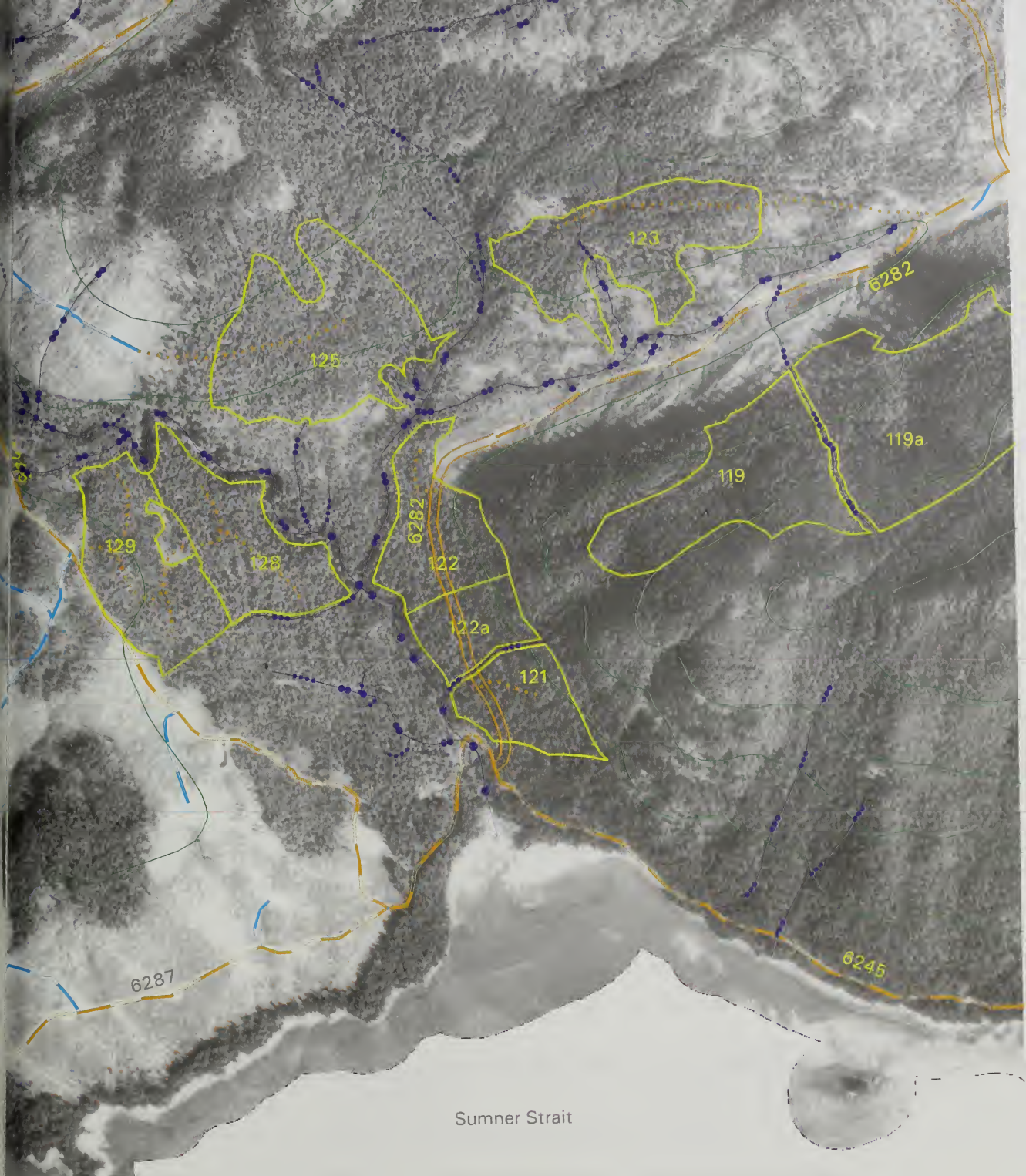
WETLANDS: The road location crosses no mapped wetlands (BMP 12.5). Most of this road segment would be constructed as a timber access road; however, the timber purchaser may not need the loop completed for log haul. The last segment needed to complete the loop may be constructed under a public works contract.

SCENERY: The road may be seen from Sumner Strait. Seed or plant alder on cut banks. Trees retained within the harvest unit may provide screening.

EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8)

ROCK PITS: There are visual concerns along this segment, therefore no new rock pits will be allowed on this extension of Road 6282.

STREAM CROSSINGS: There are no stream crossings that require site-specific design consideration for volume of flow, fish habitat, or other design complexity.



Sumner Strait

ROAD_6282

- Existing Classified Roads
- Existing Closed Roads
- Proposed Classified Roads
- Unit Boundary
- Proposed Temporary Roads
- AHMU-Class I
- AHMU-Class II

- AHMU-Class III
- AHMU-Class IV
- 500ft Contours

0 1320 2640

Scale is 1 inch = 1320 feet

Road Management Objective

Project Woodpecker		System Mitkof	Land Use Designation ML
Route No. 40821	Route Name High Pass	Begin Termini MP 1.75 Rd. 6282	End Termini MP 1.84
Begin MP 0.0	Length 1.84	Status Planned	Map Quarter Quad PSG C-3
			Photo year, roll, photos '99 2398-97-99

General Design Criteria and Elements

Functional Class	Service Life	Surface	Width	Design Speed	Critical Vehicle	Design Vehicle
Local	LI	Shot rock	14'	10	Logging Truck	Logging Truck

Intended Purpose/Future Use

The road is used for access for silvicultural activities. This road will be extended in the future, to access timber along the slope to the south. The road will be placed into storage after timber harvest to minimize wildlife impacts and reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current or Planned Initial Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.84	2	1	Closed

Maintenance Narrative

Storage: remove or bypass all drainage structures to restore natural drainage patterns, add waterbars as needed to control runoff, re-vegetate.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage:	N/A	
	Accept:	Hikers	
	Discourage:	motorized vehicles	
	Prohibit:	N/A	
	Eliminate:	N/A	

Travel Management Narrative

By removing crossing structures, most motorized vehicle use will be eliminated. Restore crossings when needed in the future.

Road Management Objectives

Site Specific Design Criteria Road 40821

ROAD LOCATION: The road steadily gains elevation along a north-facing slope in order to reach a switchback and a high bench area.

WETLANDS: Road location was completed to avoid wetlands wherever practicable. Wetlands were unavoidable on some portions of the location due to safety, engineering design constraints and considerations for other resources. Alternatives to the location on wetlands would mean longer higher cost roads that may have impacted similar areas of wetlands. High value wetlands (fens) were particularly avoided wherever practicable.

The first 500 feet crosses a muskeg/forested wetland mosaic (BMP 12.5). The location is here to avoid open muskeg on each side and to use a flat ridge location versus the slope to the south above an AHMU Class II stream. An area of muskeg/forested wetland is crossed between Units 117b and 117c. Approximately 1,000 feet long, the location is here to reach a stable crossing of the stream at point A. A short section of muskeg/forested wetland is crossed at point B since the gentle terrain in this area allows room for a switchback with less environmental impacts than on steeper forested slopes. A 400-foot section of forested upland/wetland mosaic crossed near the end of the road is controlled by topography and grade restrictions.

SCENERY: The road may be seen from Crystal Mountain. Screen with trees where possible and seed or plant alder on cutbanks.

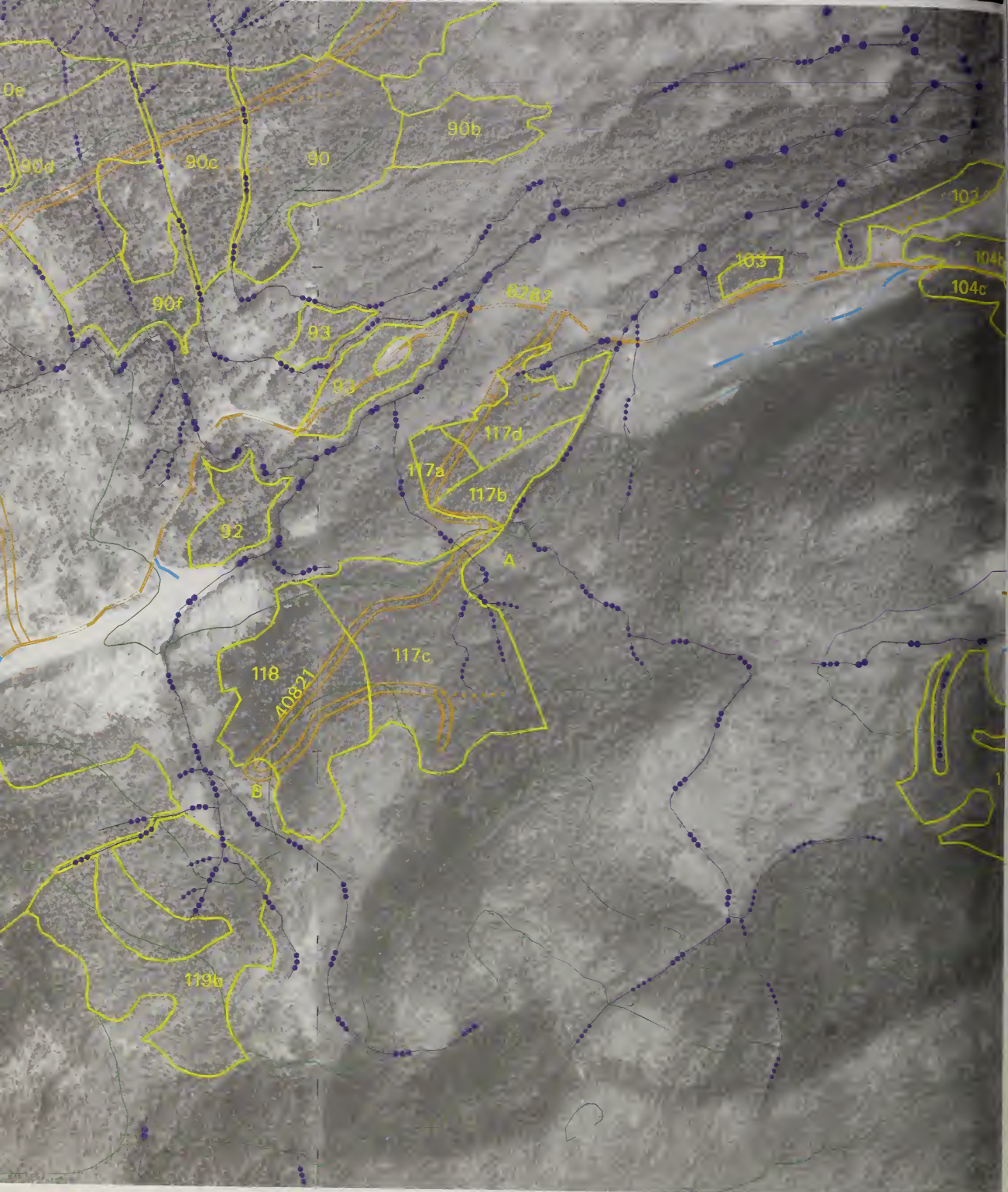
EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6). Screen rock pits from view from Crystal Mountain.

STREAM CROSSINGS:

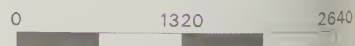
MP <u>0.74</u> AHMU <u>III</u> Channel Type <u>HC5</u> BF Width <u>12ft</u>	BF Depth <u>1 ft</u> Incision <u>5 ft</u> Substrate <u>gravel to 1 ft cobble</u>	Gradient <u>5%</u> Structure <u>12m panel</u> <u>bridge</u>
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Narrative: Large woody debris in stream holding gravel, little bedload movement.



- | | | | |
|--|---------------------------|--|----------------|
| | Existing Classified Roads | | AHMU-Class III |
| | Existing Closed Roads | | AHMU-Class IV |
| | Proposed Classified Roads | | 500ft Contours |
| | Unit Boundary | | |
| | Proposed Temporary Roads | | |
| | AHMU-Class I | | |
| | AHMU-Class II | | |

ROAD_40821



Scale is 1 inch = 1320 feet

Road Management Objective

Project Woodpecker		System Mitkof	Land Use Designation TP, ML, SV
Route No. 40822	Route Name Upper Sumner	Begin Termini MP 3.3 Rd. 6282	End Termini MP 2.19
Begin MP 0.0	Length 2.19	Status Planned	Map Quarter Quad PSG C-3
Photo year, roll, photos '99 2398-28-29, 2398-97-101			

General Design Criteria and Elements

Functional Class Local	Service Life LI	Surface Shot rock	Width 14'	Design Speed 10	Critical Vehicle Logging Truck	Design Vehicle Logging Truck
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Intended Purpose/Future Use

Access for silvicultural activities. Will be extended in the future, accessing timber along the slope to the north. Close road after timber harvest at junction of temporary road to west to minimize wildlife displacement and reduce maintenance needs.

Maintenance Criteria

Bmp	Emp	Operational Maintenance Level (Current or Planned Initial Condition)	Objective Maintenance Level (Desired Future Condition)	Alaska Forest Practices Act
0.00	1.01	2	2	Inactive
1.01	2.19	1	1	Closed

Maintenance Narrative

Storm proof first segment to junction of temporary road to west. Storage on remainder of road: remove or bypass all drainage structures to restore natural drainage patterns, add waterbars as needed to control runoff, re-vegetate.

Operation Criteria

Highway Safety Act:	No	Jurisdiction:	National Forest Ownership
Travel Management Strategies	Encourage: Accept: Discourage: Prohibit: Eliminate:	N/A Hikers Standard passenger vehicles on first 1.01 miles N/A Standard passenger and high clearance vehicles beyond MP 1.01.	

Travel Management Narrative

By removing crossing structures, most motorized vehicle use will be eliminated. Restore crossings when needed in the future.

Road Management Objectives

Site Specific Design Criteria

Road 40822

ROAD LOCATION: The objective of the road location is to access the south-facing slope north of the existing Road 6282 from the highest point on Road 6282. The main control point in crossing the valley from south to north is a main branch of Sumner Creek at Point A. This branch becomes a deep and wide V-notch below the proposed crossing, whereas the proposed crossing is a fairly simple bridge site. The south-facing slope affords several benches for landings. The road can be extended in the future to access timber to the north.

WETLANDS: Road location was completed to avoid wetlands wherever practicable. Wetlands were unavoidable on some portions of the location due to safety, engineering design constraints and considerations for other resources. Alternatives to the location on wetlands would mean longer higher cost roads that may have impacted similar areas of wetlands. High value wetlands (fens) were particularly avoided wherever practicable.

The first 500 feet crosses a soil type mapped as muskeg wetland (BMP 12.5). The road location is here because this is the highest elevation on Road 6282 in which to access the bridge site at point A. A segment approximately 2,500 feet long of muskeg/forested wetland mosaic including the bridge site at point A was unavoidable due to the need to reach point A, a relatively simple crossing of a wide, deep V-notch below the bridge site. A 400-foot segment of the road crosses forested wetland on the east border of Unit 90d because of the gentle terrain it provides as opposed to the steeper side slopes above.

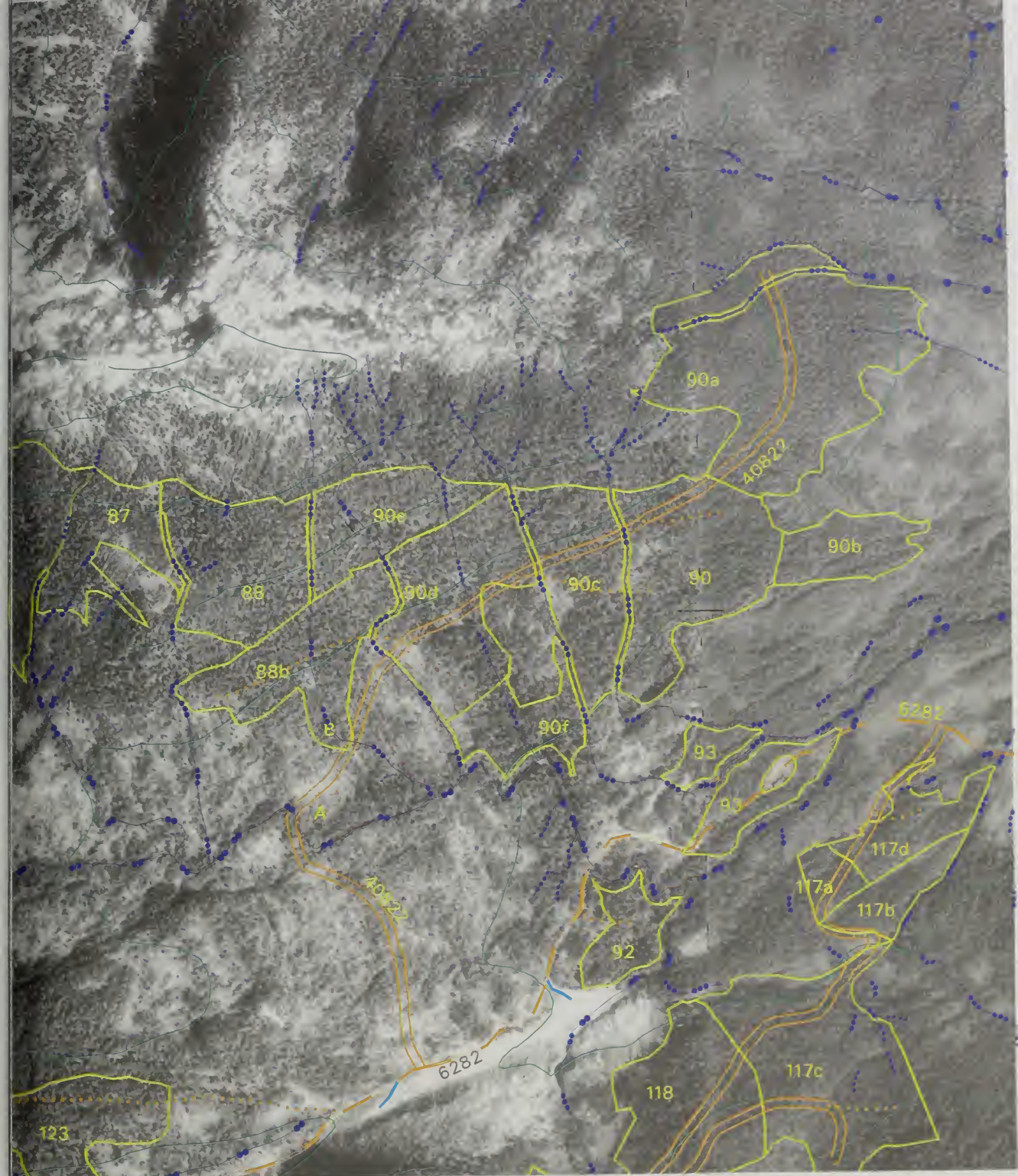
EROSION CONTROL: An erosion control plan for construction and maintenance will be developed by the contractor and approved by the Contracting Officer (BMP 14.5). All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 12.17, 14.8).

ROCK PITS: During periods of high rainfall (as defined in current Regional specifications), blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.6). There may be visual concerns along this road from midway through Unit 90 to the end of the road.

STREAM CROSSINGS:

A) MP <u>0.59</u> AHMU <u>II</u> BF Depth <u>3 ft</u> Incision <u>5 ft</u>	Channel Type <u>HC4</u> Substrate <u>bedrock, cobble</u> Gradient <u>8%</u>	BF Width <u>14 ft</u> Structure <u>12 m Panel Bridge</u>
Narrative: Very little bedload movement, mostly bedrock, becomes a 50-foot-deep V-notch 200 feet downstream. No timing required.		
B) MP <u>0.76</u> AHMU <u>III</u> Channel Type <u>HC5</u> BF Width <u>6 ft</u>	BF Depth <u>1 ft</u> Incision <u>4 ft</u> Substrate <u>gravel</u>	Gradient <u>8%</u> Structure <u>81" x 59" CMPA</u>

Narrative: No timing required.



- Existing Classified Roads
- Existing Closed Roads
- Proposed Classified Roads
- Unit Boundary
- Proposed Temporary Roads
- AHMU-Class I
- AHMU-Class II

- AHMU-Class III
- AHMU-Class IV
- 500ft Contours

ROAD_40822

0 1320 2640

Scale is 1 inch = 1320 feet

Road Management Objectives


















Unclassified Road 40004_0.483L

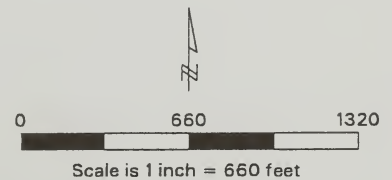
Alternative: 6

This road was constructed as a temporary road that was used to access timber in 1987. It is located at milepost 0.483 on Road 40004. This road is not needed for the long term road management system and is within a previously harvested stand. This road is located on a ridge with no drainage structures and is 300 feet (0.057 miles) long. It will be closed by installing a ditch at the entrance that will be impassable to motorized vehicles.

Unclassified Road 40004_0.483L



- | | | | |
|--|---------------------------|---|--|
|  | Existing Managed Stands |  | Proposed Classified Roads |
|  | Riparian Management Area |  | Proposed Temporary Roads |
|  | Beach Buffer |  | Unclassified Road to be Decommissioned |
|  | Old-growth Reserves |  | 500-ft. Contour Interval |
|  | Lakes |  | 100-ft. Contour Interval |
|  | AHMU-Class 1 Streams |  | 1 Stream Numbers |
|  | AHMU-Class 2 Streams | | |
|  | AHMU-Class 3 Streams | | |
|  | AHMU-Class 4 Streams | | |
|  | Existing Classified Roads | | |
|  | Existing Closed Roads | | |



Recreation Cards

Proposed Recreation Project #1

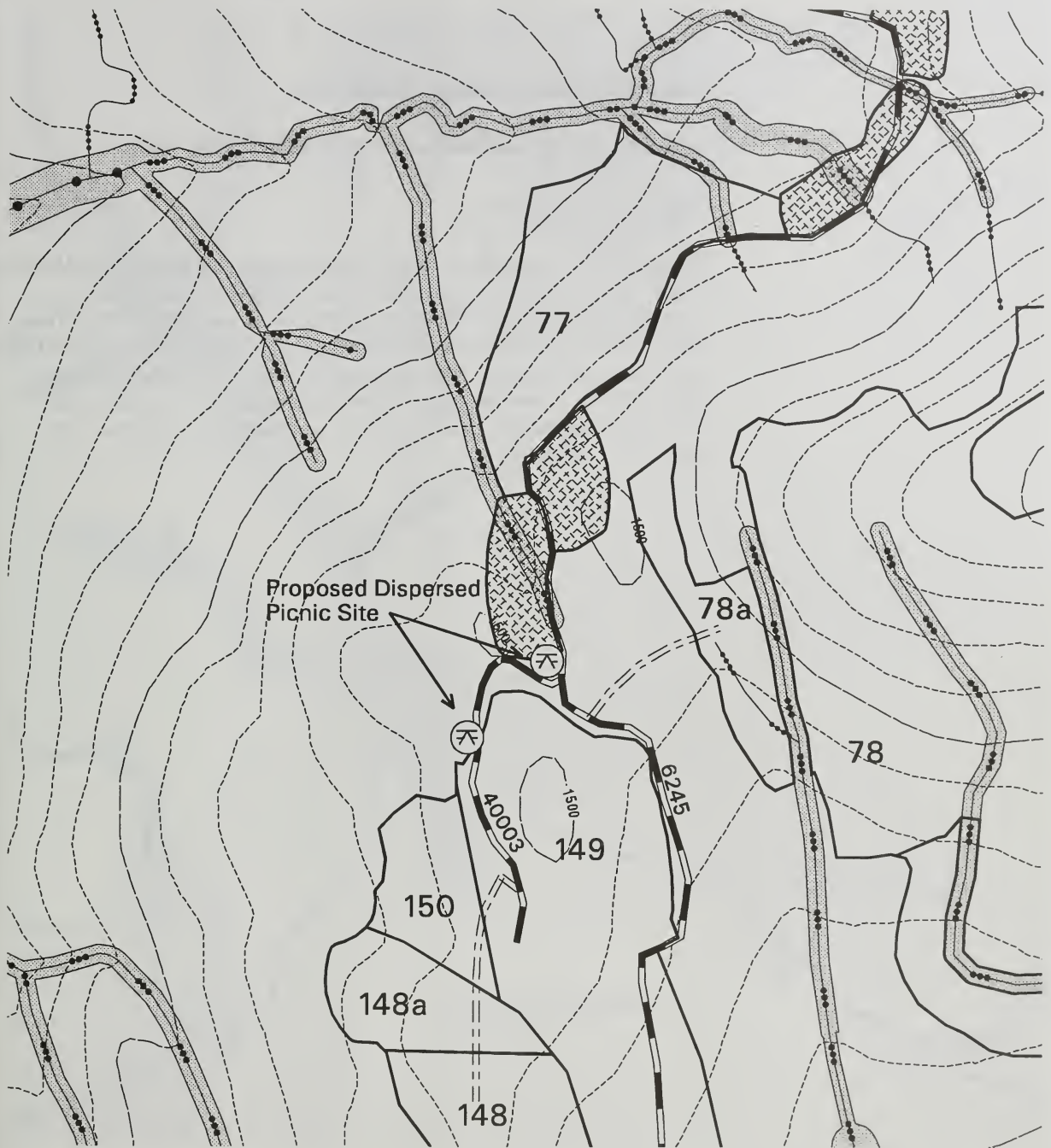
Picnic/Dispersed Campsites on Road 40003 (Endhaul Road)

Alternatives: 2, 4, 5, 6

One proposed site is located in a small muskeg meadow on the west side of Road 40003. The site has views to the west and southwest towards the southern end of Wrangell Narrows. The proposal includes a short access trail through the muskeg or through forest on the edge of the muskeg. A platform with picnic table is proposed in Alternatives 2 and 4. In Alternatives 5 and 6, an area big enough for a tent would also be developed, either on the picnic platform or a short distance away in the trees. Any necessary wetlands permits will be obtained from the Corps of Engineers before construction begins.

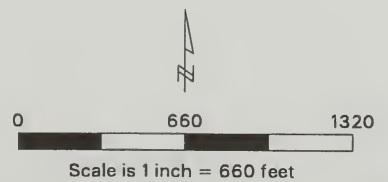
A second picnic site is proposed at the junction of Road 40003 and Road 6245. This site has good views to the north.

Woodpecker Proposed Recreation Project #1



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams

- AHMU-Class 4 Streams
- Existing Classified Roads
- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval



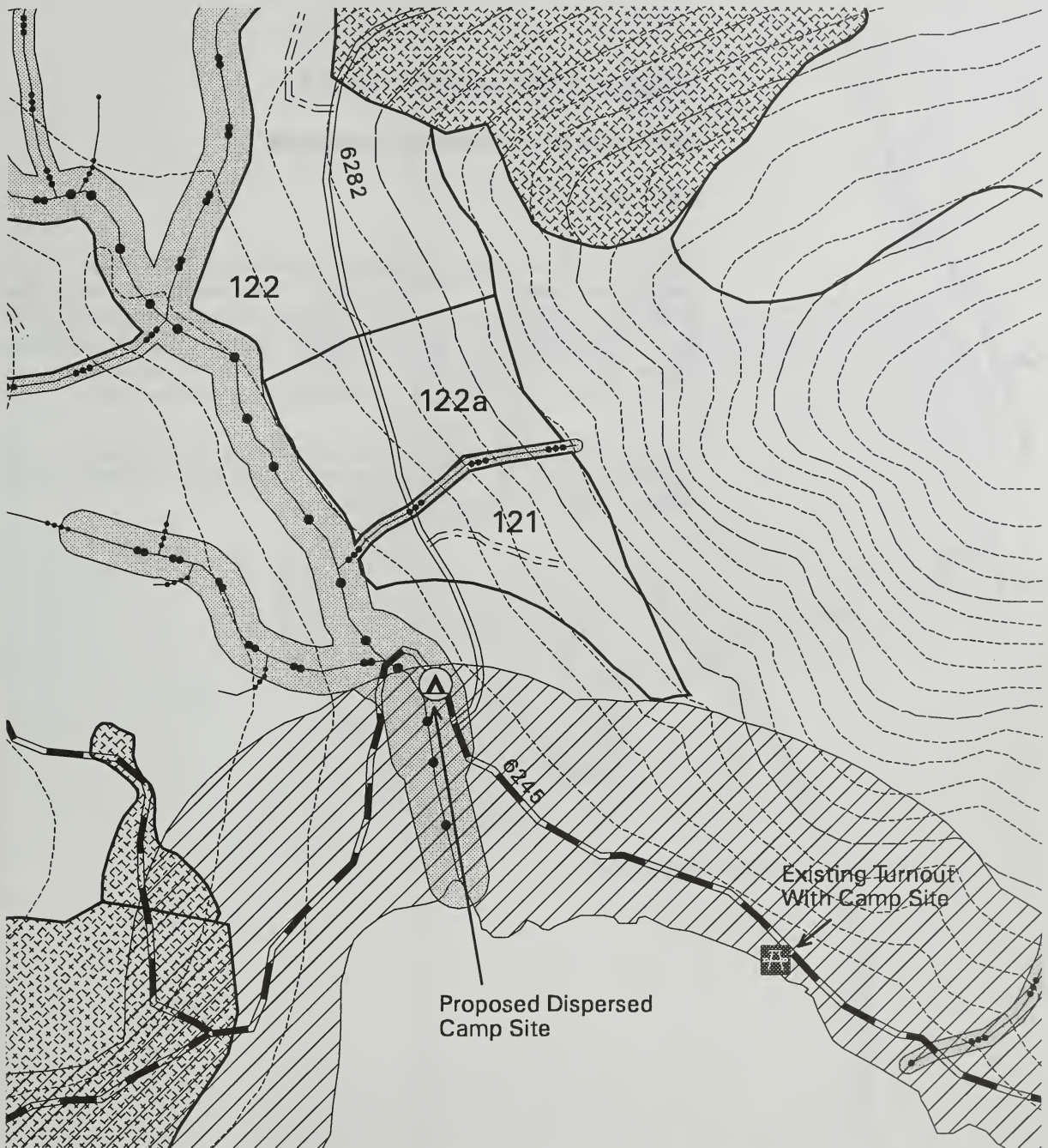
Proposed Recreation Project #2

Woodpecker Cove Dispersed Campsite/ Picnic Area

Alternatives: 2, 4, 5, 6

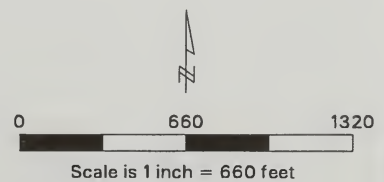
This proposed development would be located near the bridge over Michael Creek on Road 6245. It is intended as an alternative to the small, undeveloped site located adjacent to the beach at milepost 10.5 on Road 6245. The proposed development includes off-road parking, a picnic table and at least one tent site. This site would use the old roadbed of Road 6245 left after the realignment for the bridge approach. A path to the creek and beach would also expand the recreation opportunities in the area.

Woodpecker Proposed Recreation Project #2



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams

- AHMU-Class 4 Streams
- Existing Classified Roads
- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval



Proposed Recreation Project #3

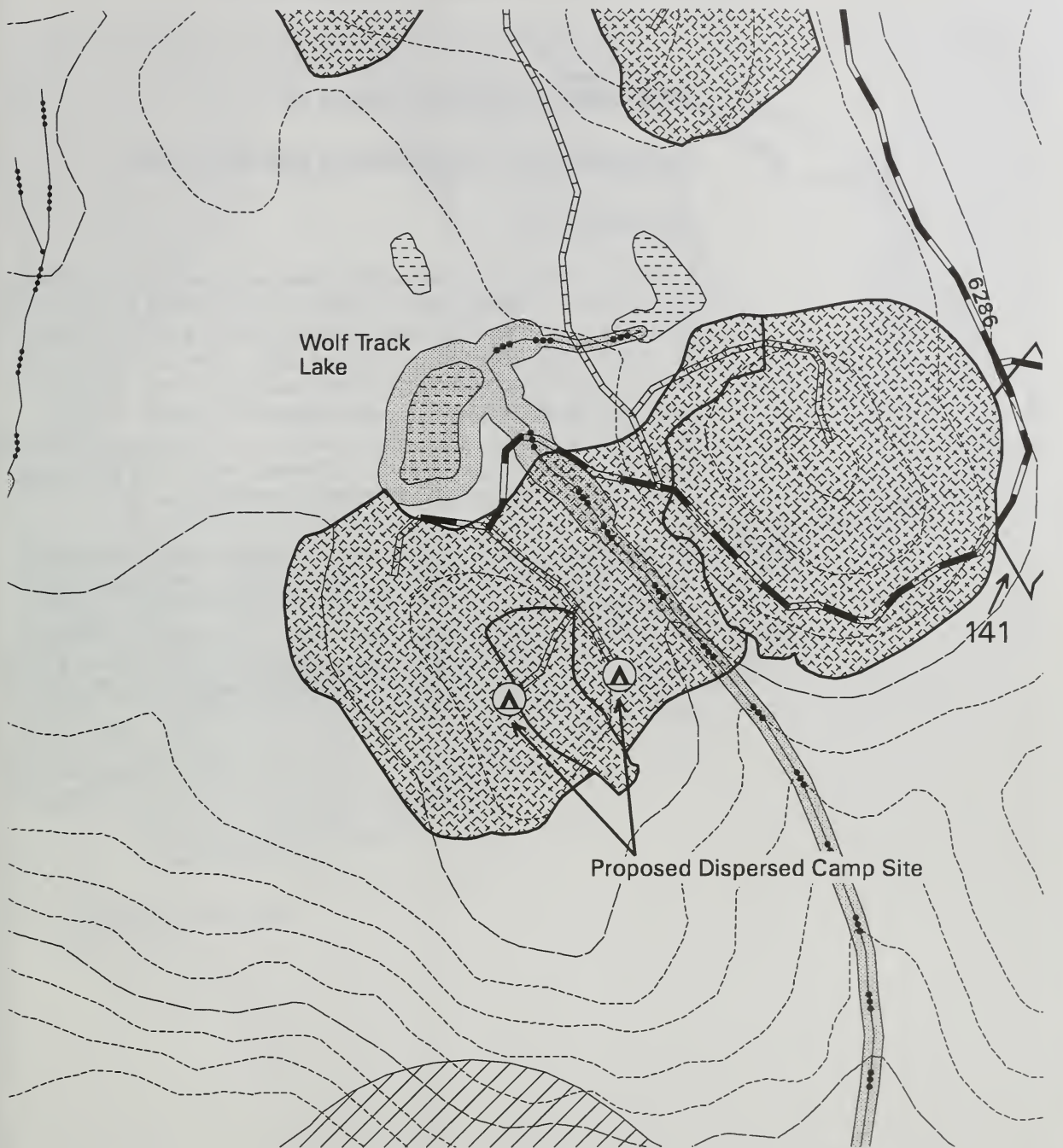
Wolf Track Lake Dispersed Campsites









Alternatives: 2, 4, 5, 6








Two dispersed campsites are proposed at landings in a previously harvested unit south of Wolf Track Lake. These two landings are located at the end of a temporary road that is currently closed at its junction with Road 6286. It is about a ¼-mile walk from the road closure to the sites. The western site shows evidence of recent use, with a makeshift tarp shelter. Both sites have views to the south across Sumner Strait.

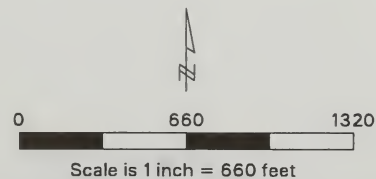
Alternatives 2, 4, 5 and 6 propose ground clearing and leveling to accommodate a picnic table and tent area at each site. Alternatives 5 and 6 would also construct tent pads at each site.

Woodpecker Proposed Recreation Project #3



-  Existing Managed Stands
-  Riparian Management Area
-  Beach Buffer
-  Lakes
-  Proposed Unit Boundaries
-  AHMU-Class 1 Streams
-  AHMU-Class 2 Streams
-  AHMU-Class 3 Streams

-  AHMU-Class 4 Streams
-  Existing Classified Roads
-  Existing Closed Roads
-  Proposed Classified Roads
-  Proposed Temporary Roads
-  500-ft. Contour Interval
-  100-ft. Contour Interval



Proposed Recreation Project #4

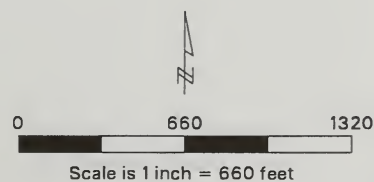
Woodpecker Cove Demonstration Area Picnic Sites

Alternatives: 2, 4

The Woodpecker Cove Demonstration Area was established in 1993 to demonstrate the effects of various degrees of tree thinning on wildlife and plant diversity in a stand of young second-growth. It is located along Road 6287, which is closed to motorized traffic. The first ½-mile of the Demonstration Area consists of an alder-lined path, several markers identifying the different thinning units adjacent to the path, and two viewpoints with picnic tables. In the past few years, alder has regenerated along the path and at the picnic sites to the point where foot and bicycle travel is hindered and the views of Sumner Strait are obscured.

The proposed project would enhance the recreation opportunities in the area by clearing the alder from the path and picnic sites. In addition, it would open up more of Road 6287 to foot or bicycle traffic by clearing alder beyond the existing path. Alternatives 2 and 4 propose to clear an additional ¾ mile of Road 6287, starting at the end of the existing path. A third picnic table would be placed at a viewpoint overlooking Sumner Strait.

Topographic map of the area around Lake Umbagog, showing the proposed dispersed picnic site and the existing picnic site. The map includes contour lines, a road, and a trail. The proposed dispersed picnic site is marked with a circle and a crosshair, and the existing picnic site is marked with a triangle. The map also shows the shoreline of Lake Umbagog and the surrounding land.



Proposed Recreation Project #5

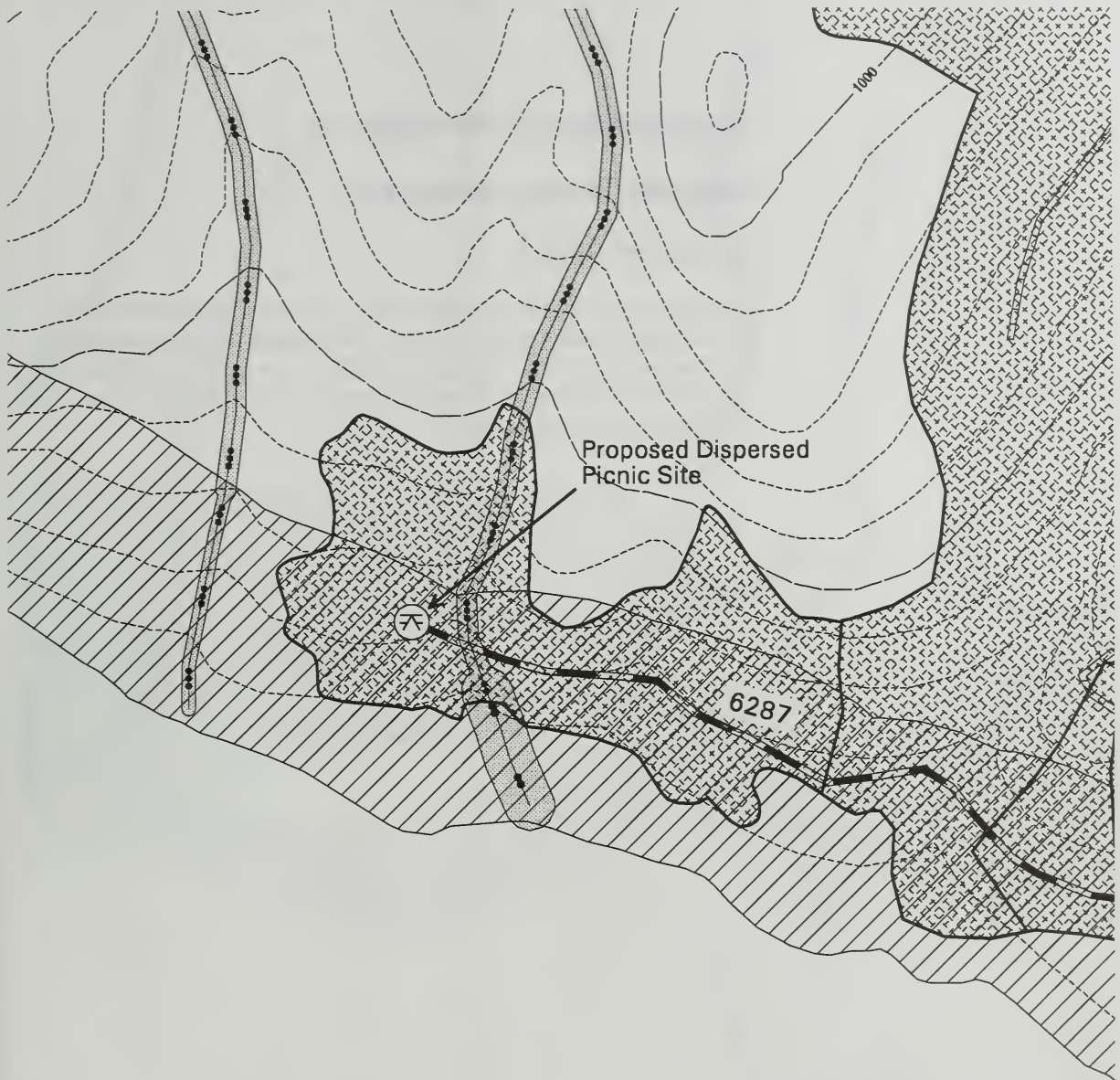
Woodpecker Cove Demonstration Area Picnic Sites











Alternatives: 5, 6

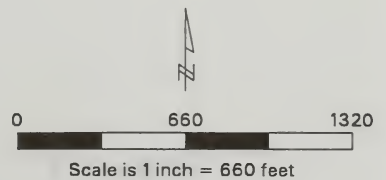
The Woodpecker Cove Demonstration Area was established in 1993 to demonstrate the effects of various degrees of tree thinning on wildlife and plant diversity in a stand of young second-growth. It is located along Road 6287, which is closed to motorized traffic. The first ½-mile of the Demonstration Area consists of an alder-lined path, several markers identifying the different thinning units adjacent to the path, and two viewpoints with picnic tables. In the past few years, alder has regenerated along the path and at the picnic sites to the point where foot and bicycle travel is hindered and the views of Sumner Strait are obscured.

The proposed project would enhance the recreation opportunities in the area by clearing the alder from the path and picnic sites. In addition, it would open up more of Road 6287 to foot or bicycle traffic by clearing alder beyond the existing path. Alternatives 5 and 6 propose to clear the path to the end of the road (about 1 mile beyond the existing path) and set up a fourth picnic table at a viewpoint at the end of the road.

Woodpecker Proposed Recreation Project #5



- | | | | |
|--|--------------------------|---|---------------------------|
|  | Existing Managed Stands |  | AHMU-Class 4 Streams |
|  | Riparian Management Area |  | Existing Classified Roads |
|  | Beach Buffer |  | Existing Closed Roads |
|  | Lakes |  | Proposed Classified Roads |
|  | Proposed Unit Boundaries |  | Proposed Temporary Roads |
|  | AHMU-Class 1 Streams |  | 500-ft. Contour Interval |
|  | AHMU-Class 2 Streams |  | 100-ft. Contour Interval |
|  | AHMU-Class 3 Streams | | |



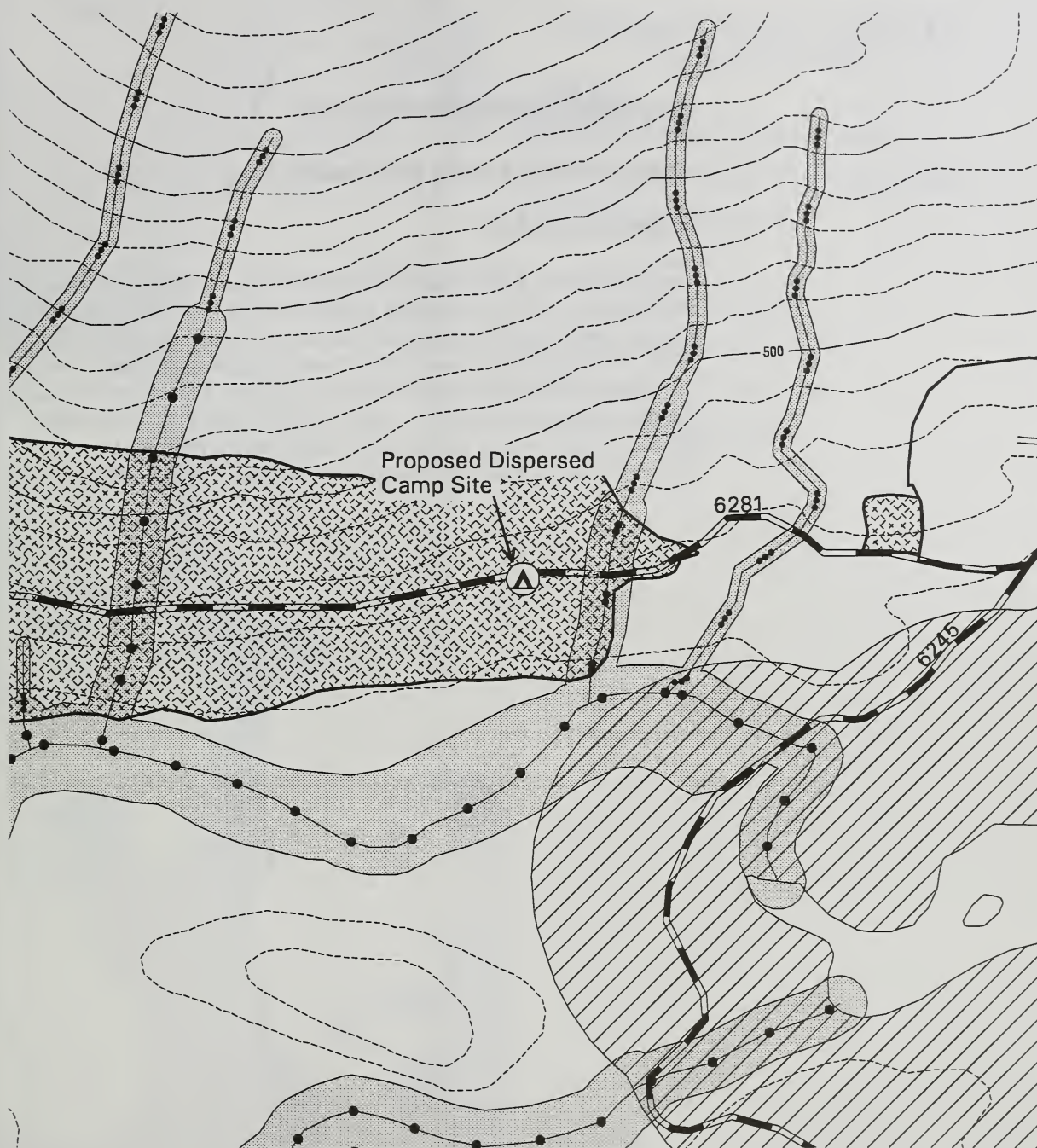
Proposed Recreation Project #6

Dispersed Campsite on Road 6281

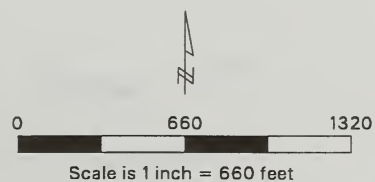
Alternatives: 2, 4, 5, 6

A landing located on Road 6281, ½ mile from the junction with the Woodpecker Road, shows evidence of its use as a temporary campsite. The site has good views to the south and east towards south Blind Slough. The proposed project would include cleanup of the area to provide room for a picnic table and a tent pad.

Woodpecker Proposed Recreation Project #6



- | | | | |
|--|--------------------------|---|---------------------------|
|  | Existing Managed Stands |  | AHMU-Class 4 Streams |
|  | Riparian Management Area |  | Existing Classified Roads |
|  | Beach Buffer |  | Existing Closed Roads |
|  | Lakes |  | Proposed Classified Roads |
|  | Proposed Unit Boundaries |  | Proposed Temporary Roads |
|  | AHMU-Class 1 Streams |  | 500-ft. Contour Interval |
|  | AHMU-Class 2 Streams |  | 100-ft. Contour Interval |
|  | AHMU-Class 3 Streams | | |



Proposed Recreation Project #7

Parking Turnouts along Woodpecker Road

Alternatives: 2, 4, 5, 6

The Woodpecker Road (Road 6245) currently has safety turnouts, which are designed to allow converging vehicles to pass more easily and safely. Hunters and recreationists regularly use some of these turnouts as parking areas. This project proposes to build more turnouts and enlarge some of the existing turnouts along the Woodpecker Road. Each turnout would be designed to accommodate one to two cars. The idea is to locate these turnouts in areas where people could readily access recreation opportunities like hunting, fishing, berry-picking or scenic vistas.

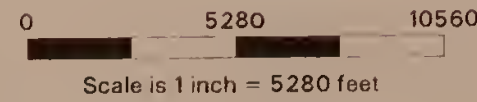


Woodpecker Project Area

Proposed Recreation Project #7 Parking Turnouts

LEGEND

- Existing Managed Stands
- Non-National Forest System Lands
- Lakes/Saltwater
- Streams
- 500ft Contours
- Project Area Boundary
- Existing Open Road
- Proposed Turnout



I:\cell\petersburg\slk\m010\is\fedus\is\files\unit\p\projects\woodpecker\plots\demo\turnouts.map 09/14/01
route17x11.mpl\aml calling turnouts.mpl



Watershed Improvement Cards

Watershed Improvement Project # 1

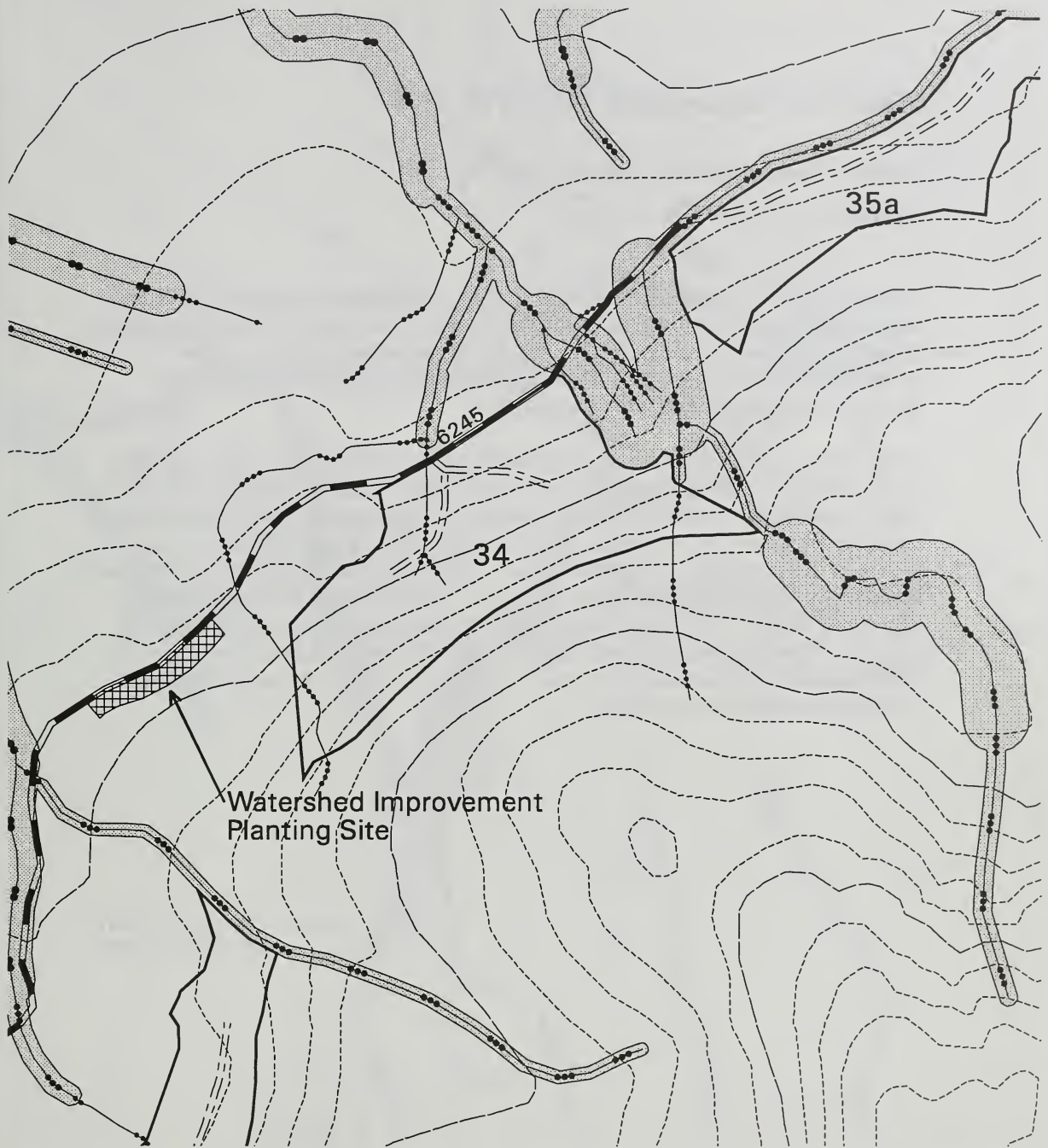
Location: Along Road 6245, just southwest of proposed Unit 34.

Alternative (s): 2, 4, 5, 6

To prevent possible degradation of water quality, bare cutbank slopes will be revegetated with grass seed, or alder or willow transplants from nearby sources. The transplants will be planted in contour rows using a method called brush hedgerows or cordons.

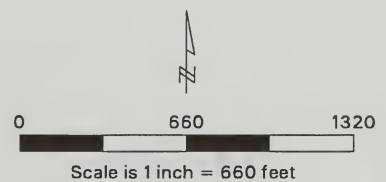
Grass seeding may not successfully establish a vegetative cover because of the steepness of some of the slopes. The seed may wash off before germination, or frost heave could prevent permanent establishment. In these areas, alder or willow may need to be planted. Alder is nitrogen fixing and is adapted to rapid growth of disturbed sites in Southeast Alaska. Hedgerow planting of alder has been used successfully on the Petersburg Ranger District at several eroding sites on Mitkof and Kupreanof Islands. The technique results in living bands of alder growing across the contours. Spacing of these bands is approximately three vertical feet. Over time, the bands become less apparent and the spaces between the contour bands are filled with other colonizing native vegetation.

Woodpecker Watershed Improvement Project #1



- Existing Managed Stands
- Riparian Management Area
- Beach Buffer
- Lakes
- Proposed Unit Boundaries
- AHMU-Class 1 Streams
- AHMU-Class 2 Streams
- AHMU-Class 3 Streams

- AHMU-Class 4 Streams
- Existing Classified Roads
- Existing Closed Roads
- Proposed Classified Roads
- Proposed Temporary Roads
- 500-ft. Contour Interval
- 100-ft. Contour Interval



Watershed Improvement Project #2

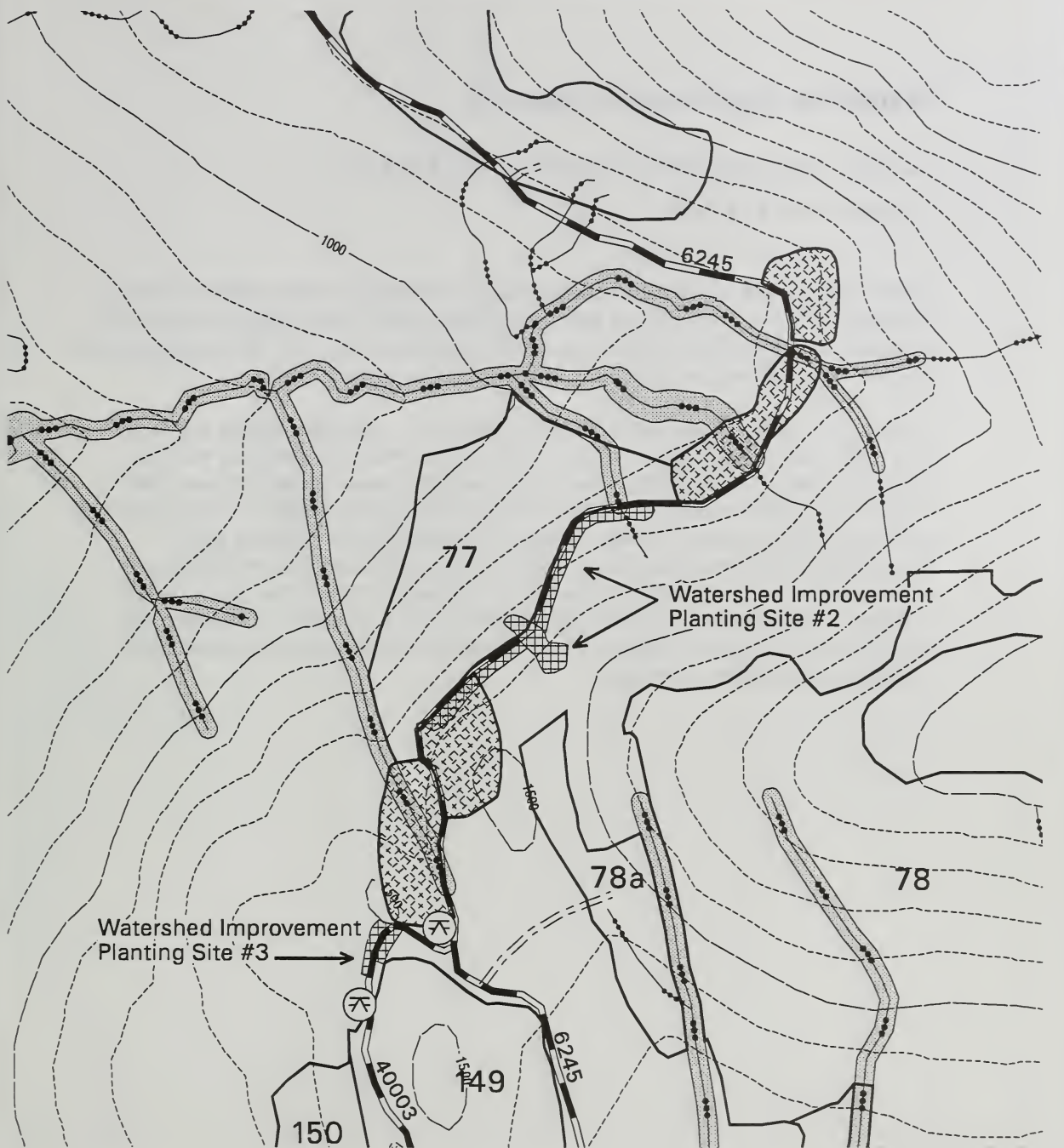
Location: Along Road 6245, adjacent to Unit 77









Alternative (s): 2, 4, 5, 6








To prevent possible degradation of water quality, bare cutbank slopes and a slide that occurred in October 1999 will be monitored for signs of erosion. If conditions indicate a possible risk to water quality, the sites will be revegetated with alder or willow transplants from nearby sources. The transplants will be planted in contour rows sometimes called brush hedgerows or cordons.

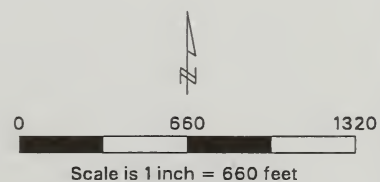
Grass seeding was recently accomplished on these sites to establish a quick vegetative cover. Because of the steepness of some of the slopes, where the seed may wash off before germination or where frost heaves may prevent permanent establishment, alder and willow may need to be planted. Alder is nitrogen fixing and is adapted to rapid growth of disturbed sites in Southeast Alaska. Hedgerow planting of alder has been used successfully on the Petersburg Ranger District at several eroding sites on Mitkof and Kupreanof Islands. The technique results in living bands of alder growing across the contours. Spacing of these bands is approximately three vertical feet. Over time, the bands become less apparent and the spaces between the contour bands are filled with other colonizing native vegetation.

Woodpecker Watershed Improvement Project #2



-  Existing Managed Stands
-  Riparian Management Area
-  Beach Buffer
-  Lakes
-  Proposed Unit Boundaries
-  AHMU-Class 1 Streams
-  AHMU-Class 2 Streams
-  AHMU-Class 3 Streams

-  AHMU-Class 4 Streams
-  Existing Classified Roads
-  Existing Closed Roads
-  Proposed Classified Roads
-  Proposed Temporary Roads
-  500-ft. Contour Interval
-  100-ft. Contour Interval



Watershed Improvement Project #3

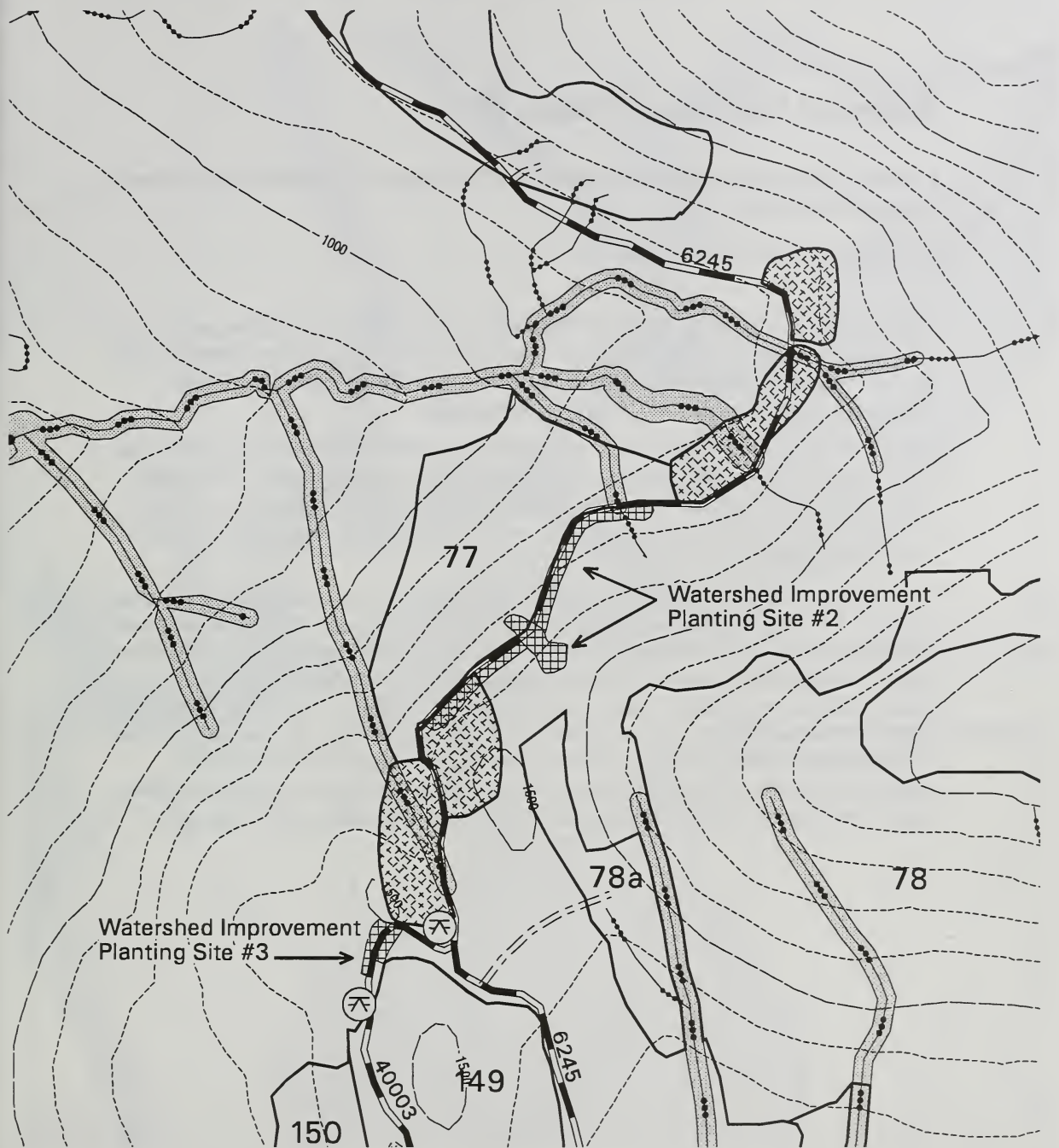
Location: Along Road 40003, just north of proposed Unit 149

Alternative (s): 2, 4, 5, 6

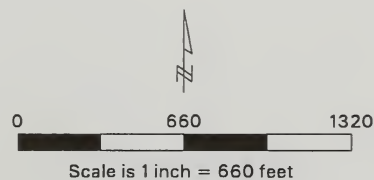
To prevent possible degradation of water quality, bare cutbank slopes will be monitored for signs of erosion. If conditions indicate a possible risk to water quality, the sites will be revegetated with alder or willow transplants from nearby sources. The transplants will be planted in contour rows sometimes called brush hedgerows or cordons.

Grass seeding was recently accomplished on these sites to establish a quick vegetative cover. Because of the steepness of some of the slopes, where the seed may wash off before germination or where frost heaves may prevent permanent establishment, alder or willow may need to be planted. Alder is nitrogen fixing and is adapted to rapid growth of disturbed sites in Southeast Alaska. Hedgerow planting of alder has been used successfully on the Petersburg Ranger District at several eroding sites on Mitkof and Kupreanof Islands. The technique results in living bands of alder growing across the contours. Spacing of these bands is approximately three vertical feet. Over time, the bands become less apparent and the spaces between the contour bands are filled with other colonizing native vegetation.

Woodpecker Watershed Improvement Project #3



- | | | | |
|--|--------------------------|--|---------------------------|
| | Existing Managed Stands | | AHMU-Class 4 Streams |
| | Riparian Management Area | | Existing Classified Roads |
| | Beach Buffer | | Existing Closed Roads |
| | Lakes | | Proposed Classified Roads |
| | Proposed Unit Boundaries | | Proposed Temporary Roads |
| | AHMU-Class 1 Streams | | 500-ft. Contour Interval |
| | AHMU-Class 2 Streams | | 100-ft. Contour Interval |
| | AHMU-Class 3 Streams | | |



Watershed Improvement Project #4

Location: Along Road 6284, approximately 1/2 mile east of the point where the road crosses Michael Creek

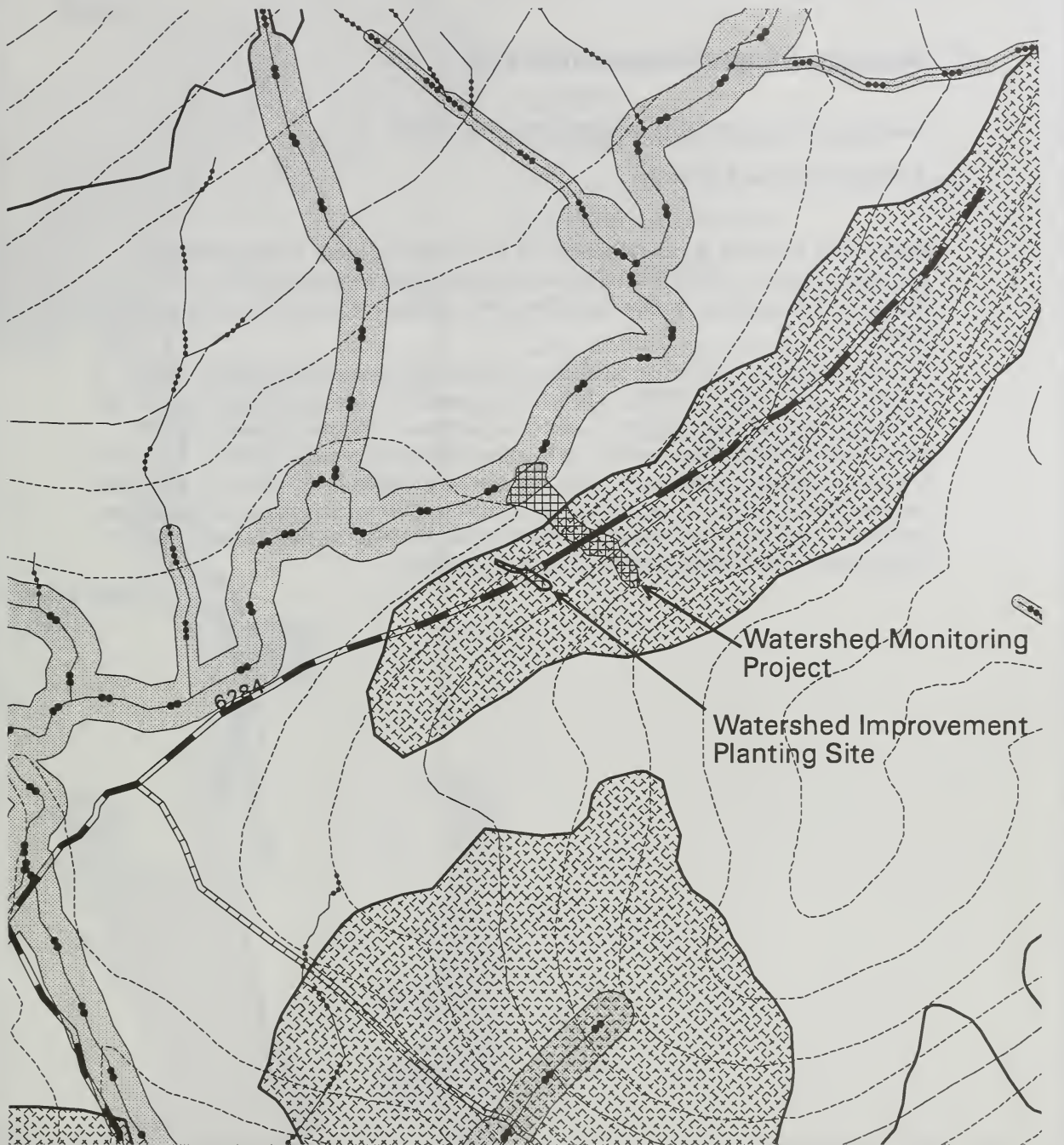
Alternative (s): 2, 4, 5, 6









There are two landslides at the end of Road 6284. These slides are shallow and occur at a contact between glacial till and bedrock. The larger slide was seeded and fertilized and the lower end was planted with alder in the 1970s. This slide is now completely revegetated. The smaller slide is partially revegetated.








Both slides appear to be sufficiently vegetated to the extent that they do not pose a risk to water quality. These slides will be monitored for signs of further erosion. If erosion occurs, these areas will either be grass seeded or will be planted with alder or willow from nearby sources. The transplants will be planted in contour rows using a method called brush hedgerows or cordons.

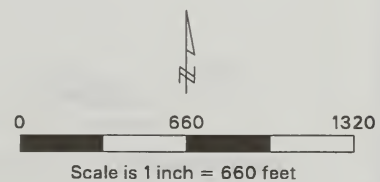
Grass seeding may not successfully establish a vegetative cover because of the steepness of some of the slopes. The seed may wash off before germination, or frost heave could prevent permanent establishment. In these areas, alder or willow may need to be planted. Alder is nitrogen fixing and is adapted to rapid growth of disturbed sites in Southeast Alaska. Hedgerow planting of alder has been used successfully on the Petersburg Ranger District at several eroding sites on Mitkof and Kupreanof Islands. The technique results in living bands of alder growing across the contours. Spacing of these bands is approximately three vertical feet. Over time, the bands become less apparent and the spaces between the contour bands are filled with other colonizing native vegetation.

Woodpecker Watershed Improvement Project #4



-  Existing Managed Stands
-  Riparian Management Area
-  Beach Buffer
-  Lakes
-  Proposed Unit Boundaries
-  AHMU-Class 1 Streams
-  AHMU-Class 2 Streams
-  AHMU-Class 3 Streams

-  AHMU-Class 4 Streams
-  Existing Classified Roads
-  Existing Closed Roads
-  Proposed Classified Roads
-  Proposed Temporary Roads
-  500-ft. Contour Interval
-  100-ft. Contour Interval



Watershed Improvement Project #5

Location: Along Road 6245, between mileposts 1 and 9

Alternative (s): 2, 3, 4, 5, 6

Restore fish migration to natural conditions in 5 Class II streams. Existing drainage structures may act as barriers to migration of resident fish during some flows. Fish passage will be restored by either installing new structures or by modifying the existing structures.

In order to begin to correct fish passage problems at the 38 sites identified on Mitkof Island to meet the model criteria, a contract was awarded to do survey and design of the necessary modifications needed to correct the problems at 29 sites in fiscal year 2001 with reconstruction of these culverts to be completed in the summer of 2002. Four of the five sites within the Woodpecker Project Area were included in this contract. The other site was found after further analysis to have only about 30 square meters of fish habitat upstream. Interagency agreement prioritized replacement at this time to other sites on Mitkof Island with higher priority fish passage problems.



Woodpecker Project Area

Watershed Improvement Project #5

LEGEND

- Existing Managed Stands
- Non-National Forest System Lands
- Lakes/Saltwater
- Streams
- 500ft Contours
- Project Area Boundary
- Existing Open Road
- Reconstruction of Stream Crossing Barriers

0

5280

10560

Scale is 1 inch = 5280 feet

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Appendix C

Agency Responses to Public Comments on the Woodpecker Project Area Draft EIS

Appendix C

Agency Responses to
Public Comments on
the Woodstock
Project Area Draft EIS

Introduction to Appendix C

After the Woodpecker Project Area Draft EIS was made available to the public, there was a public review period to respond to the proposed activities and analysis. The Forest Service received a total of 17 comment letters from organizations, agencies, and individuals by mail, FAX, and e-mail (see Table C-1). The Interdisciplinary Team identified, analyzed, and responded to every substantive comment.

Some of these comments were quite lengthy while others were brief. The comments ranged from very general concerns about National Forest management to unit-specific comments. Some of the concerns expressed in these comments were:

Some commentors identified their preferred alternative based on proposed activities or on the amount of protection. There were some questions about other alternatives not developed.

The majority of the comments concerned Sitka black-tailed deer habitat. Some of these comments concerned the model used to calculate the project area's deer carrying capacity and the limits of this model, including components such as thinning and partial harvest assumptions. Concern was expressed for the effects of the project on subsistence use by local residents.

The second most common set of comments concerned roads and their effects on the environment. This included the effects on fish passage through stream crossing structures. Other comments concerned the loop road connection between Roads 6245 and 6282, as well as the closure of some roads and other road construction. The effects of road construction and timber harvest on areas that currently provide undeveloped, remote recreation opportunities, was mentioned. There was discussion about the necessity of the dispersed campsites and turnouts.

Many comments concerned the need for timber harvest, the amount of timber harvest, the practicability of partial harvest, the availability of sales for local operators, and the financial efficiency of timber sales. Some commentors suggested that the Forest Service should wait until the national roadless issue was resolved before proceeding with project proposals. Other comments were based on the values of the Crystal Inventoried Roadless Area. The proposed modifications of small old-growth habitat reserves were the subject of some comments.

The Forest Service responses to these comments provide an overview of agency policy or direction regarding a concern, discuss how the issue has

been addressed, and direct the reader to the appropriate section of the Final EIS, Forest Plan, or other direction for a more complete discussion. In some cases, information was added to the Final EIS to address a comment. These comments were used in the development of a new alternative that was then recommended by the Interdisciplinary Team to the Responsible Official as the Selected Alternative.

Table C-1. Letters Received from Agencies, Organizations, and Individuals

No.	Name	Organization	City, State	Page Numbers	
				Public Comment	Agency Response
1	Ralph Thompson	US Army Corps of Engineers	Juneau, AK	3-5	6-7
2	Mr. & Mrs. J.L. Denison		Long Beach, CA	8	9
3	Bryan Bird	Forest Conservation Council	Boca Raton, FL	10-13	14-17
4	Leo Luczak	City of Petersburg	Petersburg, AK	18	19
5	Jennifer Garland	Alaska Department of Governmental Coordination	Juneau, AK	20-23	24-25
6	Jim Cariello	Alaska Department of Fish & Game	Petersburg, AK	26-30	31-35
7	Jack Slaght		Petersburg, AK	36-41	42
8	Lyle Bennett		Petersburg, AK	43	44
9	Pamela Bergman	US Fish & Wildlife Service	Anchorage, AK	45-51	52-55
10	Judy Forgey		Petersburg, AK	56	57
11	Eric Lee	Narrows Conservation Coalition	Petersburg, AK	58-63	64-68
12	Matthew Davidson	Southeast Alaska Conservation Council	Juneau, AK	69-75	76-81
13	Becky Knight		Petersburg, AK	82-87	88-92
14	David Berg		Petersburg, AK	93	94
15	Jack Phelps	Alaska Forest Association	Ketchikan, AK	95-100	101-104
16	Richard B. Parkin	US Environmental Protection Agency	Seattle, WA	105-108	109-110
17	Lori Morgan		Redding, CA	111	112

Letter #1 – US Army Corps of Engineers



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
JUNEAU REGULATORY FIELD OFFICE
JORDAN CREEK CENTER
8800 GLACIER HWY, SUITE 106B
JUNEAU, ALASKA 99801-8079

August 18, 2000

Regulatory Branch
East Section
9-2000-0607

Ms. Cynthia Sever
U.S. Forest Service
ATTN: Woodpecker Project Area
Post Office Box 1328
Petersburg, Alaska 99833-1328

Dear Ms. Sever:

These comments are submitted in response to the July, 2000, Draft Environmental Impact Statement (DEIS) for the Woodpecker Timber Sale, approximately 27 miles south of Petersburg, Alaska. This project has been assigned number 9-2000-0607, which should be referred to in all future correspondence with this office.

Your proposed project was reviewed pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Section 10 of the Rivers and Harbors Act of 1899 requires that a Department of the Army (DA) permit be obtained for certain structures or work in or affecting navigable waters of the United States (U.S.), prior to conducting the work (33 U.S.C. 403). Section 404 of the Clean Water Act requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including wetlands, prior to conducting the work (33 U.S.C. 1344).

For regulatory purposes, the Corps of Engineers (Corps) defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Navigable waters of the U.S. are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or other waters identified as navigable by the Alaska District. All tidal waters in the project area are considered navigable waters of the U.S., including but not limited to Sumner Strait, Wrangell Narrows, and South Blind Slough.

Based on a review of the information you provided and other information available to our office, it preliminarily appears that portions of the area proposed for timber harvest and road construction would affect waters of the U.S., including wetlands, subject to Corps jurisdiction. Portions of the project area are identified as wetlands in the U.S. Fish and Wildlife Service National Wetland Inventory mapping, which are adjacent to streams that are tributaries to navigable waters of the U.S.

Section 404(f)(1)(a) of the Clean Water Act states, in part, that normal silvicultural activities for the production of forest products, which are part of an established, ongoing operation, are not subject to regulation under Section 404

Letter #1 – US Army Corps of Engineers

-2-

of the Clean Water Act. Section 404(f)(1)(e) states that the construction or maintenance of forest roads for silviculture activities is exempt from regulation under Section 404 of the Clean Water Act, provided the roads are constructed and maintained in accordance with Best Management Practices listed at 33 CFR 323.4(a)(6). The Corps has the responsibility to assure that activities performed under the exemptions meet the conditions included in the Act, implementing regulations, Best Management Practices and subsequent national guidance.

Specific comments regarding the DEIS:

- USCOE-2 | • Alternatives 2 and 5 indicate that 1.1 miles of permanent road construction would occur in wetlands, which would impact 6.66 acres of wetlands. However, the DEIS also indicates that from 2.6 to 5.6 miles of temporary roads would be constructed but the document does not reflect the wetland acreage that would be impacted, which should be disclosed.
- USCOE-3 | • On page 1-18 the DEIS discusses a 1985 experiment to drain a muskeg area in the project area to enhance timber production. We would appreciate receiving a copy of the documentation and plans for this activity including copies of any prior correspondence with this office concerning this work.
- USCOE-4 | • Corps of Engineers authority under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) should be included in the list of Federal and State Permits, Licenses and Certifications on page 1-33, since the final proposal could involve work in navigable waters.
- USCOE-5 | • Page 2-6: If a land based logging camp or sort yard is required that would involve the discharge of dredged or fill material in wetlands or other waters of the U.S., prior DA authorization would be required under Section 404 of the Clean Water Act. If a floating camp is proposed, prior DA authorization would be required under Section 10 of the Rivers and Harbors Act of 1899. In addition, if improvements or modifications to the Woodpecker Cove log transfer facility are necessary, DA authorization may be required.
- USCOE-6 | • Page 2-28: Drainage structures associated with roads that cross wetlands also need to be designed to ensure that surface and subsurface flows are not restricted to comply with the 404(f) Best Management Practices for forest roads.
- USCOE-7 | • Page 3-31: The DEIS discusses construction of a dispersed picnic/camp site in a small muskeg meadow on the west side of road 40003. As you acknowledge, this activity would require prior DA authorization, however you would need to demonstrate that there are no less damaging practicable alternatives, (particularly upland alternatives) available for this work in order to receive DA authorization.
- USCOE-8 | • Page 3-33: The extension of Road 6282 to connect to the Woodpecker Road (Road 6245), and the upgrade of Road 40006 are being considered to form a loop for recreational driving and to upgrade the road for passenger vehicle use. If this work would involve the discharge of dredged or fill material into waters of the U.S., including wetlands, prior DA authorization would be required for these activities.

Letter #1 – US Army Corps of Engineers

-3-

USCOE-9

- Page 3-164: Best Management Practices for forest roads listed at 33 CFR 323.4(a)(6)(vii) require in part, that the design, construction and maintenance of road crossings shall not disrupt the migration or other movement of those species of aquatic life inhabiting the water body. The culverts on Road 6245 that are blocking fish passage must be corrected in a timely manner since they do not comply with this Best Management Practice and constitute an ongoing violation of Section 404 of the Clean Water Act. In this regard, we would appreciate receiving your schedule for correcting this situation.

USCOE-10

- Page 3-171: The DEIS states that proposed roads in the project area are designed to avoid wetlands where feasible but does not include wetland mapping for the project area or indicate how the wetland boundaries were identified, which should be disclosed. Determining the location of wetlands is the first step in demonstrating compliance with the 404(f) Best Management Practices and determining whether or not DA permits are required. Valid methods or sources of wetland mapping information, such as National Wetland Inventory maps, Tongass National Forest Resource Inventory, plant association data, or the Classification and Delineation of Wetlands using Soils and Vegetation Data, Tongass National Forest (DeMeo, et.al. 1989) are acceptable for supporting one or more wetlands criteria (e.g., soils, vegetation, hydrology) at the start of the National Environmental Policy Act process. For Corps regulated activities, the standard for delineation of wetlands is the 1987 Corps of Engineers Wetland Delineation Manual, including any supplemental guidance or subsequent revisions. The U.S. Forest Service (or any entity) can request that the Corps conduct a jurisdictional determination, which will be accomplished subject to staffing, budgetary and seasonal constraints. However, there are advantages to the U.S. Forest Service voluntarily assisting the Corps by mapping these waters and wetlands, particularly as the National Environmental Policy Act process proceeds and the project particulars become more clearly known and defined.

USCOE-11

- Page 3-171: The DEIS states that drainage structures will be removed on all temporary roads but does not identify the proposed timing for this activity (e.g., immediately after the unit is harvested, after all units are harvested, etc.), which should be disclosed.

We appreciate the opportunity to provide comments on the Woodpecker Project Area Timber Sale and are available for further discussion or clarification of our comments or regulatory requirements as necessary. If we can provide further information, please contact me at the letterhead address, by telephone at (907) 790-4490, or by FAX at (907) 790-4499.

Sincerely,

R. Thompson
Ralph W. Thompson
Field Office Manager

Enclosures

Response to Letter #1 - COE

US Army Corps of Engineers

USCOE-1

You are correct that the Woodpecker Project Area contains wetlands in addition to several streams within the project area that do flow into navigable waters.

USCOE-2

We have added information about temporary road construction to the wetlands discussion in Chapter 3.

USCOE-3

We mailed you a copy of the 1983 EA for the muskeg drainage project in August 2000. We could not find any formal correspondence with your agency.

USCOE-4

The Rivers and Harbors Act of 1899 is now included in the list in Chapter 1.

USCOE-5

All applicable permits and authorizations will be obtained in a timely manner. The Woodpecker Cove LTF is a permitted facility, but at this time there are no plans for a logging camp or modifications there.

USCOE-6

All roads will be designed following applicable Best Management Practices.

USCOE-7

Corps authorization will be obtained prior to development of the recreation site. The criteria for selection of the final route and site will consider the quality of the recreation experience provided while providing for the least amount of resource damage.

USCOE-8

All applicable permits will be obtained prior to implementation, if work will involve discharge of dredged or fill material into waters of the United States.

USCOE-9

All new stream crossings will use the latest design standards to provide adequate movement of aquatic life. Currently, a contract to survey, design and reconstruct 29 stream crossing structures on Mitkof Island with identified fish passage problems is in progress. This contract includes four of the five identified sites within the Woodpecker Project Area. Reconstruction of these culverts is expected to be completed in the summer of 2002. Further analysis and interagency review identified the fifth site as having a lower priority than other sites on Mitkof Island since it involved only 30 square meters of upstream habitat.

USCOE - 10

We sent you a map of the wetlands in our Geographic Information System in August 2000. These wetlands were based on the soil survey done in support for the revision of the Forest Plan.

USCOE - 11

Each temporary road will be decommissioned after the unit or units that the road accesses are completely harvested. This may require the road to be open for more than one operating season. All applicable Best Management Practices will be used to minimize resource damage. This information has been added to the unit cards.

Letter #2 - Denison

We are among the millions of the TRUE LANDOWNERS of our national forests who are VERY angry that our forests are being sold out (DESTROYED) for the sole benefit of timber corporations, OUR Forest Service, and a few local workers. Please keep in mind that our forests belong to ALL Americans, not the few who benefit from them financially--at taxpayer EXPENSE. It doesn't matter if they're called Polk Small Sales and Salvages, Maden Timber Sales, Deer Run Salvage,

Shady Timber Sale, Woodpecker Project Area, etc., etc., etc.; it doesn't matter if the logging occurs in hidden places so as to have "natural-appearing landscapes", "maintain scenic quality in areas viewed from popular land and marine travel routes" while permitting timber harvest"; it doesn't matter if the logging is done all at once or piecemeal --25,000 acres here, 4800 acres there, 2100 acres here, 2.6million board feet of timber there...the RESULTS are the same---a fractured ecosystem.

We, the many millions of Americans, who are the true owners of this land want OUR FORESTS to remain wildlands full of the wildlife we want to enjoy ALIVE!

Den-1

We now know how our forests have been destroyed AT OUR EXPENSE; we also don't buy the argument that we must destroy our forests for a few local jobs. We now know, and YOU know that an intact forest has MANY times more economic (and certainly many times more environmental) value than a logged one! We also don't buy the excuse that you're just following the Tongass Forest Plan; we know this, too, was concocted by those timber corporations our Forest Service, and the legislators who receive ample campaign contributions for selling out our forests. You don't HAVE to destroy the forests!

We know this is not the response you want from us, but we are just reflecting what millions of angry Americans are saying: ENOUGH IS ENOUGH! NO MORE COMMERCIAL LOGGING ON OUR FORESTS! WE MUST SAVE WHAT'S LEFT FOR OURSELVES AND FUTURE GENERATIONS!

If you don't have the courage to initiate such a policy we will do it for you at the ballot box by

electing conservation-minded leaders who will fill

our Forest Service with people who care more about saving our forests than profiting from their destruction!

Thank you for the opportunity to respond to this vitally important issue!

Mr. and Mrs. J.L. Denison
6931 E. 11th St.
Long Beach, CA 90815

Mr. And Mrs. J.L. Denison

Denison-1

Congress has, in numerous laws and regulations, specifically included timber harvest among the many multiple uses of the National Forests.

A primary goal of the Tongass Land and Resource Management Plan is to provide for the sustainability of the resources of the Tongass National Forest, while directing the coordination of multiple uses, such as outdoor recreation, timber, wildlife, fish, watershed and wilderness. To accomplish this goal, the Forest Plan includes a wide range of land allocations ranging from areas that essentially allow no land-disturbing activities to areas allowing intensive resource development, and a set of standards and guidelines that ensure management objectives for these land allocations are met.

The Tongass National Forest Land and Resource Management Plan allocated portions of the Woodpecker Project Area to Land Use Designations that allow timber harvest. The Woodpecker Project is consistent with the Forest Plan and will provide timber without substantially altering the visual aspects or wildlife habitat capability of the project area. See Appendix A of the Final EIS for more information about how timber harvest is scheduled.

Letter # 3 – Forest Conservation Council



FOREST CONSERVATION COUNCIL

Thomas Puchlerz, Forest Supervisor
Petersburg Ranger District
Tongass National Forest
P.O. Box 1328
Petersburg, AK 99833

Monday, September 11, 2000

USDA FOREST SERVICE TONGASS NATIONAL FOREST RECEIVED		
SEP 20 2000		
FOREST SUPERVISOR OFFICE		
ROUTE		INT.
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ENG		
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PLANNING/IRM		
REC & LANDS		
TIMBER		
RANGERS		
OTHER		

RE: Comments on the Woodpecker Timber Sale Draft EIS

Dear Mr. Puchlerz,

Forest Conservation Council and the National Forest Protection Alliance are tax-exempt, public interest organizations with individual and business members throughout the United States.

FCC-1

We are concerned with the adverse economic effects of the national forest logging program, and the Forest Service's failure to quantify such effects at the project level or for the program as a whole. The logging program increases costs of water purification and filtration, decreases the value of private timberlands, unfairly competes against alternative fiber and building material businesses, increases wildfire risk, increases repair and maintenance costs for highways and public roads, and decreases the number of jobs in recreation, tourism, fisheries, and alternative forest products.

The Woodpecker Timber Sale will jeopardize the viability of species that thrive in naturally disturbed forests, intervene in natural disturbance processes that are vital to ecosystem sustainability, and degrade water quality and watershed condition. The analysis on which the Forest has relied is inadequate, flawed and biased in a number of ways, rendering any potential decision arbitrary and capricious.

Our concerns with the Woodpecker Timber Sale include:

1: Socioeconomic Benefits

FCC-2

USFS timber sales are the end result of inter-related planning decisions and analyses made at the national, forest, and project level. 36 C.F.R. § 219.4. At the national level, the Forest Service prepares the Renewable Resources Program (RPA), which determines output levels for all national forest resources based upon a comprehensive environmental and economic assessment of present and anticipated demands for and supply of renewable resources from forests in all ownership. At the forest level, the Forest Service

Western Regional Office
P.O. Box 22488
Santa Fe, New Mexico 87502
(505) 986-1163

Southeastern Regional Office
P.O. Box 276268
Boca Raton, Florida 33427
(561) 347-0949

Mid-Atlantic Regional Office
3526 Firey Run Road
Linden, Virginia 22642
(540) 364-9651

Letter #3 – Forest Conservation Council

has prepared the Tongass National Forest Land and Resource Management Plan ("LRMP"), which is an "extension" of the RPA Program and which identifies lands that are suitable for timber sales, the amount of timber to be offered each year, and under what conditions timber sales will be offered. At the project level, the Forest Service makes decisions about the specific configuration of individual timber sales, including the Woodpecker Timber Sale. At each level, the Forest Service must engage in environmental and economic analyses of its decisions as required by the National Environmental Policy Act.

FCC-2

The Forest Service is required by law to manage national forest system lands and programs to maximize social and economic benefits for the American people. As with other projects planned on the National Forests of Alaska and throughout Region 10, the Forest Service has failed to complete an economic analysis of the Woodpecker Timber Sale that provides the public with a full and fair accounting of net economic benefits. Instead, the economic analysis is limited to net costs incurred by the Forest Service and project administrators for county receipts as well as sale preparation and administration costs.

The draft EIS and project record fail to place any economic value on existing uses and functions of the sale area, including recreation, flood control, pest control, carbon sequestering, and many other "ecosystem services." In addition, the economic analysis fails to consider a wide range of costs that will be incurred by the public through loss of these "ecosystem services" and other externalized costs such as increased flooding, increased risk of death, injury, and property damage from logging operations.

Forest Conservation Council has raised these economic issues in the context of numerous appeals in Region 10. We incorporate, by reference, these appeals for a more complete description of our issues on this subject.

2. Value of Unlogged Forest

FCC-3

The dollar value of undisturbed forest or standing timber should have been calculated and used in the analysis of economic costs associated with the Woodpecker Timber Sale. The value of "ecosystem services" provided by standing forests has never been evaluated and compared with their value as lumber. Economic benefits of standing forests include but are not limited to clean air and water, balance of global geochemical cycles, and buffering of carbon emissions resulting from the burning of fossil fuels. It has been shown that the rate of carbon lost to that of accumulation is much greater during harvest, and there is a net transfer of carbon from biomass to atmospheric CO₂. Further, the carbon stored in forest regrowth is less than that in the original forest biomass.

FCC/NFPA 45-Day Comments,
Woodpecker Timber Sale, p. 2 of 4

Letter # 3 – Forest Conservation Council

3. Species Viability

The Woodpecker Timber Sale includes commercial harvest, ground-disturbing activities associated with timber harvest and other vegetative manipulation. These activities are likely to jeopardize the viability of species that find optimal habitat in forests with well-developed structures, and forests naturally disturbed by fire, disease and insect pathogens. These include threatened, endangered, and sensitive species, as well as management indicator species.

FCC-4

For many of these species the Forest Service has no up-to-date population data describing population numbers, locations, and trends, nor monitoring data on which the agency can rely to determine that the actions proposed in the context of the Woodpecker Timber Sale will maintain numbers and distribution of these species sufficient for insuring long term viability. Because the Forest Service has no such data for most species adversely affected by the proposed management activities, and because what data there is suggests that such species are declining and otherwise at risk, the Forest Service runs afoul of viability and diversity requirements set forth in forest planning regulations 36 C.F.R. § 219.19 and § 219.26.

4. Cumulative Effects

The USDA Office of Inspector General has identified cumulative effects analysis as an area of concern for the Forest Service in particular and this is a significant issue. (USDA Office of Inspector General Evaluation Report. 1999. No. 08801-10-At)

The Forest Service Environmental Policy and Procedures Handbook sets the standard for analysis of cumulative effects:

FCC-5

"Individual actions when considered alone may not have a significant impact on the quality of the human environment. Groups of actions, when added together, may have collective or cumulative impacts which are significant. Cumulative effects which occur must be considered and analyzed without regard to land ownership boundaries. Consideration must be given to the incremental effects of past, present, and reasonably foreseeable related future actions of the Forest Service, as well as those of other agencies and individuals."

Despite this clear direction, the Woodpecker Timber Sale draft EIS avoids the required analysis and ignores important contributors to cumulative effects. Cumulative impacts are analyzed in context only of timber harvest, no attention is provided to other factors such as increased passenger vehicle and OHV use.

FCC/NFPA 45-Day Comments,
Woodpecker Timber Sale, p. 3 of 4

Letter #3 – Forest Conservation Council

Please address these issues in your final environmental impact statement. Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bryan Bird', with a stylized, overlapping loop at the end.

Bryan Bird
Forest Conservation Council
Southeastern Regional Office

FCC/NFPA 45-Day Comments,
Woodpecker Timber Sale, p. 4 of 4

Response to Letter #3 - FCC

Forest Conservation Council

FCC-1

The scope of this project is confined to the potential effects of the project on the issues defined during scoping. The specific concerns that you have listed in this comment regarding adverse economic effects were not identified as issues relevant to this project. We feel that our analysis is adequate for the scope of this project. Refer to Chapter 3 of this Final EIS for discussions of: 1) the effects on species viability, and 2) the incorporation of prescriptions that mimic natural disturbances and minimize effects to water quality and watershed conditions.

FCC-2

You are correct that the process for timber sales on the Tongass National Forest begins with long-range planning at the national level, and continues down through the regional and forest levels to the project planning level. The Woodpecker Project Area is a project-level analysis. It does tier to direction provided at higher levels of planning.

You note in your comments that you have raised the socioeconomic issue during numerous appeals in Region 10. In response to these appeals, the Regional Forester has pointed out the difference between program level analysis and project level analysis, to which you refer in your comments. To be effective, analysis must be done at the appropriate level. Analysis of a project area is too small to effectively deal with the national issues you would like to see included in the economic analysis. RPA does look at all resources at the national and regional levels. Chapter 3 of the Forest Plan, which incorporated this analysis, contains a comprehensive analysis of the economic and social environment. This project level analysis is then tiered to the Forest Plan.

In terms of planning for the Tongass National Forest, the Forest Plan addressed this issue when it allocated the Forest to a variety of land use designations (LUDs), established goals and objectives for the management of the Forest, and identified the desired future condition of the lands within the various LUDs. For the Woodpecker Project Area specifically, the Forest Plan allocated the NFS lands within the project area (23,600 acres or 72 percent of the Woodpecker Project Area) to LUDs that allow for timber harvest. The desired future condition for these lands states, in part, that they will produce a yield of timber that contributes to the Forest-wide sustained yield (Forest Plan, p. 3-127). In addition to land use allocations, the Forest Plan established resource standards and guidelines for the protection and management of the different forest resources for the entire Tongass National Forest.

The Forest Plan FEIS includes a comprehensive analysis of the economic and social environment in Southeast Alaska, the Tongass National Forest, and the communities within these areas. The Woodpecker Project was designed to implement the Forest Plan, and the analysis prepared for the project tiers to the analysis in the Forest Plan FEIS.

This Forest Plan analysis was conducted by an interdisciplinary team that included economists, social scientists, recreation planners, wildlife and fish biologists, as well as other disciplines. The Economic and Social Environment section of the Forest Plan FEIS includes very detailed information on industries directly dependent upon the Forest, including the timber harvesting and processing, recreation and tourism, seafood harvesting and processing, and mining industries. The Forest Plan FEIS also discusses the potential effects of each Forest Plan alternative on

Response to Letter #3 - FCC

various communities within the Tongass (pp. 3-523 to 3-685). The analysis conducted for the Forest Plan FEIS concluded that only two employment sectors - timber and recreation/tourism - would show direct or indirect effects from Tongass National Forest management over the next decade (Forest Plan FEIS, p. 2-67). Based on this analysis, the FEIS concluded that employment in the recreation and tourism industry was expected to increase moderately, and about the same amount, under all alternatives during the first decade, while timber industry employment was expected to decrease under the majority of alternatives including the Selected Alternative (Forest Plan FEIS, p. 2-67). The Forest Plan is based on the Selected Alternative

FCC-3

We agree that a dollar value has not been established for the benefits of undisturbed standing forests in Southeast Alaska. The determination of this value is beyond the scope of this project. We described and analyzed ecosystem functions of the project area such as biodiversity, soil stability, fish habitat, water quality, air quality, subsistence resources, recreation, and scenery throughout the DEIS and in this FEIS. Particular attention was paid to the values of the Crystal Inventoried Roadless Area (See Chapter 3, Issue 4). You are correct that we did not assign economic values to the "ecosystem services" that you mention. We feel that any market value assigned to these attributes at such a small scale would be arbitrary, and that the analysis presented in the DEIS and in this FEIS is a more meaningful assessment of ecosystem functions at the project level.

You maintain that an economic analysis conducted for the Woodpecker Project Area is inadequate because the Forest Service failed to quantify the non-market values and costs associated with the project. You appear to confuse financial efficiency analysis, which is required for every timber sale project, with economic efficiency analysis, which is not required (see Forest Service Handbook (FSH) 2409.18, 13). Financial efficiency analysis compares the estimated Forest Service direct expenditures with the estimated financial revenues of proposed timber sales (see Chapter 3, Issue 3). The Forest Service is not required to quantify the non-market benefits and costs associated with every timber sale. However, the Forest Service is required to "ensure that unquantified environmental amenities and values [are] given appropriate consideration in decision-making along with economic and technical considerations" (42 USC 4332(2)(B)). As stated above, the Woodpecker Project Area FEIS discusses the potential effects of the project on these values, such as recreation, scenery, wildlife, subsistence, heritage resources, fisheries, water quality, soils, and wetlands as well as impacts to the Crystal Inventoried Roadless Area and adjacent non-National Forest System lands.

FCC-4

The Forest Plan, to which this analysis is tiered, has implemented a comprehensive conservation strategy to ensure long-term viability of species within the Tongass National Forest. The administrative record for the Forest Plan demonstrates that the old-growth reserve strategy provides for viable populations of all old-growth associated species.

The 1997 Record of Decision discusses conservation of habitat for old-growth dependent species. It states, in part:

"The Forest Plan contains an integrated old-growth habitat conservation strategy consisting of two basic components: (1) a forest-wide reserve network, and (2) a matrix management strategy. The Tongass currently has approximately 5,060,000 acres of productive old-growth forest. The

Response to Letter #3 - FCC

Forest Plan fully protects 70 percent of that in some form of non-development LUD, reasonably distributed across the Forest; this will include 163,000 acres of the Old-growth LUD. ...The second component of the old-growth conservation strategy is management of lands with LUD allocations where commercial timber harvest may occur. Within these areas, which make up about 22 percent of the Forest, components of the old-growth ecosystem are maintained by standards and guidelines designed to protect important areas and provide old-growth forest habitat connectivity. ...Finally, the Forest Plan contains an additional standard and guideline, which provides for a connection between each large or medium habitat reserve and at least one other reserve if other standards and guidelines are not sufficient (Tongass Land Management Plan Revision ROD page 32)."

The Forest Plan further states:

"This overall landscape design is responsive to many of the recommendations by the independent science peer review (PNW Review) of the initial underlying old-growth conservation strategy as designed by the Interagency Viable Population Committee (VPOP), as well as subsequent responses to those recommendations (Tongass Land Management Plan Revision ROD page 33)."

The Woodpecker project is consistent with the Forest Plan Record of Decision. To address concerns for deer winter habitat, landscape connectivity, scenery, and marten habitat, the rotations for proposed timber harvest units were extended to 200 years for this project. This extended rotation provides additional assurance of the continued viability of old-growth associated species in the project area.

The Woodpecker project is appropriately tiered to the comprehensive landscape old-growth conservation strategy that was designed for the Forest Plan. Any project that tiers to and fully implements the land allocations and standards and guidelines in the Forest Plan will by definition maintain viable populations of old-growth associated species. This includes the management indicator species and Threatened and Endangered species as identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. A review of the components of the strategy was included in the project analysis.

With regard to your assertions that "the Forest Service has no up-to-date population data," population data is not necessary to conduct viability analyses. For most species, a detailed understanding of their population biology is not available to develop discrete estimates of viable populations or of existing population size. Because of these uncertainties and the lack of complete information, population viability analyses are most frequently based on habitat inferences and conducted as risk assessments of the likelihood of maintaining populations over time. Species habitat relationships are used to assess the historical, present, and anticipated amounts and distribution of key habitats, and to estimate the population trends and the opportunities for individuals to interact within the population throughout the planning area. Accepted principles of conservation biology and landscape ecology were integrated into the analysis conducted for the Forest Plan, and the Woodpecker Project appropriately tiers to the Forest Plan in its discussion and analysis of population viability requirements.

FCC-5

We want to point out that the DEIS and the FEIS do discuss cumulative effects on other resources of the past, present, and foreseeable future, to the extent that they are known. Future effects are sometimes hard to quantify since the analysis has not been completed. These future effects were taken into account during the analysis for the Forest Plan. The topic "cumulative effects" has been added to the index to make these sections easier to find in the FEIS.

Letter #4 – City of Petersburg

SEP-14-00 THU 12:20 PM PLANNING/ENGINEERING

FAX KC. 9077724676

P. 1



CITY OF PETERSBURG

Community Development

P.O. Box 329

Petersburg, Alaska 99833

(907) 772-4533 FAX (907) 772-4876

September 14, 2000

State of Alaska
Office of the Governor
Division of Governmental Coordination
Consistency Review Unit
attn: Jennifer Garland
P.O. Box 110030
Juneau, AK 99833

RE: Application for Permit State of Alaska I. D. No. AK0008-06JJ

Dear Jen:

The Petersburg Planning and Zoning Commission, at the regular meeting on September 12, 2000, reviewed the request for permit as submitted by the U.S. Forest Service and took the following action;

(from the minutes of the September 12 meeting)

8. New Business:

a. ACMP review – Woodpecker Timber Sale DEIS.

Motion by C. Anderson, second by C. Whitethorn, that the Planning and Zoning Commission is totally in favor of new logging areas on the island, and would like to that the local mills be involved in the process.

Motion carried 4 – 1.

Thank you for the opportunity to review the application and respond.

Sincerely,

Leo Luczak
Director of Community Development

DGC (faxed 465-3075)

cc: U.S. Forest Service
attn: Cynthia Sever (faxed 772-5895)

City-1

I

Response to Letter #4 – City of Petersburg

City of Petersburg

City-1

Thank you for your comment. Some of the local mill operators attended our open houses and submitted comments during the scoping stage. We responded to their comments by selecting units that were either adjacent to existing roads or that could be accessed by short temporary roads. We plan to offer a variety of sale sizes over a span of several years from this project. The number and size of sales will depend partially on the amount of volume in the Selected Alternative, market conditions, and other sales offered throughout the Tongass National Forest.

STATE OF ALASKA

OFFICE OF THE GOVERNOR

OFFICE OF MANAGEMENT AND BUDGET
DIVISION OF GOVERNMENTAL COORDINATION

TONY KNOWLES, GOVERNOR

☐ SOUTH CENTRAL REGIONAL OFFICE
550 W. 7TH AVENUE, SUITE 1660
ANCHORAGE, ALASKA 99501
PH: (907) 269-7470/FAX: (907) 269-3981

☒ CENTRAL OFFICE
P.O. BOX 110030
JUNEAU, ALASKA 99811-0030
PH: (907) 465-3562/FAX: (907) 465-3075

☐ PIPELINE COORDINATOR'S OFFICE
411 WEST 4TH AVENUE, SUITE 2C
ANCHORAGE, ALASKA 99501-2343
PH: (907) 271-4317/FAX: (907) 272-3829

October 9, 2000

Ms. Cynthia Sever, Team Leader
U.S. Forest Service, Petersburg Ranger District
P.O. Box 1328
Petersburg, AK 99833

Dear Ms. Sever:

SUBJECT: WOODPECKER TIMBER SALE DEIS
State ID No. AK 0008-06JJ
Proposed Consistency Finding

Received

OCT 11 2000

Tongass N.F.

The Division of Governmental Coordination (DGC) has coordinated the State's review of the U.S. Forest Service's consistency determination for the Woodpecker Timber Sale. The FS found the activity consistent, to the maximum extent practicable, with the Alaska Coastal Management Program (ACMP). The location of the sale is on the southwest part of Mitkof Island, in T. 59 S., R 79, 80, E., C.R.M.; approximately 27 miles south of Petersburg, Alaska. It includes portions of Value Comparison Units 447, 448, 451, and 452. The project area is approximately 33,000 acres in size.

Specifically, this sale proposes to harvest between 5.7 and 26.8 MMBF, and construction of between 0 and 4.8 miles of new permanent road. The FS has identified Alternative 2 as their preferred alternative. This alternative proposes the harvest of approximately 12 MMBF of timber from approximately 1140 acres. Approximately 4.8 miles of new permanent road would be built to access the timber, with 6.1 miles of temporary road constructed and then closed after harvest. Under all the action alternatives, ten miles of existing permanent roads would be physically closed by removing all of the drainage structures. In addition, five stream crossing structures on Road 6245 that have the potential to restrict fish passage would be reconstructed to ensure that fish passage is provided. Associated with this project is the use of the existing permitted log transfer facility (LTF) at Woodpecker Cove. Any modifications to this facility will undergo a separate Alaska Coastal Management Program consistency review, and will be subject to an ADEC Certificate of Reasonable Assurance (401 Certification).

DGC-1

This proposed consistency finding, developed under 6 AAC 50, applies to the federal consistency determination required for the project per 15 CFR 930 Subpart C. The State reviewed the proposed timber harvest activity to determine if state coastal resource concerns are adequately addressed, and to determine if the State agrees that the activity is consistent, to the maximum extent practicable, with the enforceable policies of the ACMP.

Consistency Determination: The State concurs with the USFS consistency determination for the Woodpecker Timber Sale.

We are able to find this project consistent based, in large part, on the level of information that was provided concerning road construction, maintenance, and closure. In addition, the proposed full implementation of the TLMP process group standards and guidelines (RIP2.III.E) along all Class I, II, and III streams within the project area provides reasonable assurance that yarding will be carried out consistent with the standards of 11 AAC 95.360(a).

ACMP MOU Information: The following items of information required per the USFS/ACMP MOU were not provided. These items should be provided in the FEIS for this project, and in the DEIS for future projects.

1) Unit cards should include the following information listed in Attachment 1 (item D) of the ACMP MOU:

- Measures to be taken to insure windfirmness;
- Managed stand year harvested;
- A line 300 feet from the bank of anadromous and high-value resident fish streams. Since there were only a few units which approach anadromous streams, this could be addressed by acknowledgment on the unit card of importance of the area within 300 feet of the stream to fish and wildlife resources along with mitigation proposed to maintain important habitat. (41.17.118).

2) Item G-10 Notification that the project area includes VCU's on the State lists of VCU's with the highest Community Use Values (see Tongass Resource Assessment for Southeast Alaska, page 33.)

We appreciate having the opportunity to meet with Bob Dalrymple, and discuss ACMP MOU informational issues with regards to wildlife modeling. We recognize that some of these need to be discussed in a "biologist to biologist" (State and federal) forum, and we will encourage the potential participants accordingly.

Elevation

If you do not concur with this proposed consistency finding, you must notify DGC by 5:00 p.m. on the fifth calendar day after you receive it. Within that five-day period, you may either:

- (1) Request an extension of the review schedule pursuant to 6 AAC 50.110(b)(8) if you need more time to consider this finding; or

Letter #5 – Alaska DGC

Woodpecker Timber Sale

3

October 9, 2000

- (2) Request that the State review this finding. To do this, submit a written statement requesting "elevation" of the finding, describe your concerns, and propose an alternative consistency finding. This alternative finding must demonstrate how your project is consistent with the ACMP standards and district policies I cited in this letter.

Other review participants with elevation rights pursuant to 6 AAC 50.075(a) may also request an elevation by submitting the information required in (2) above to DGC by 5:00 p.m. on the fifth calendar day after they receive the proposed finding. The review process may be expedited if the proponent and all review participants with elevation rights notify DGC of their concurrence as soon as possible.

If DGC does not receive a request for extension or an elevation statement from you or any other review participant with elevation rights, DGC will issue this proposed consistency finding as a final consistency finding.

Advisories

We have several concerns and comments related to the following aspects of the DEIS:

Revegetation of Actively Eroding Sites:

DGC-7 | According to the DEIS, to prevent the degradation of water quality, several "actively eroding sites" are proposed to be revegetated with alder transplants under Alternatives 2, 4, and 5, but not under Alternatives 1 and 3. These include a small landslide near the end of Road 6284, and bare cutbank slopes along Roads 6245 and 40003. However, actively eroding sites such as these should be revegetated regardless of the alternative, especially if they pose a risk to water quality. Revegetation of disturbed areas is also required by BMPs 12.17 and 14.8. Consequently, these sites will need to be stabilized independent of which alternative is finally selected for the Record of Decision for this project, including the no-action alternative.

DGC-8 | Recommendation for a Selected Alternative: Although all of the action alternatives appear to be consistent with the Forest Practices Act and Regulations, Alternative 3 is clearly the most environmentally preferred as it harvests the fewest acres and does not construct any new permanent roads. In addition, it would involve only one Class II one Class III stream crossing. Other positive aspects of this alternative include the fact that it does not propose any road construction or timber harvesting within the Crystal Inventoried Roadless Area; it would have the least effect on wetlands; it would provide the greatest opportunity for small sales to local operators; and it would have the highest appraised economic value of all the action alternatives. Consequently, we highly recommend that it be selected as the final alternative for the Record of Decision for this project.

DGC-9 | Woodpecker Cove LTF: The DEIS (page 3-204) states that the Woodpecker Cove LTF "currently consists of a rock ramp suitable for barge or log watering use with an adjacent staging area of approximately 1½ acres." Although no indication is provided as to the type of facility that would be used to transfer logs to the water, since barging is indicated as being

Letter #5 – Alaska DGC

Woodpecker Timber Sale

4

October 9, 2000

DGC-9

feasible at this site, it should be used in lieu of conventional inwater log transfer. A low-profile, temporarily placed shot rock bulkhead, such as that being considered for the Threemile Arm LTF on Kuiu Island, could be installed to minimize the cost and impacts to the intertidal area that a larger bulkhead would incur.

DGC-10

Please be advised that although the State agrees the project is consistent with the ACMP, based on your project description and any alternative measures contained herein, you are still required to meet all applicable State and federal laws and regulations. Your consistency finding may include reference to specific laws and regulations but this in no way precludes your responsibility to comply with all other applicable State and federal laws and regulations.

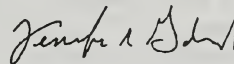
This consistency finding is ONLY for the activity as described. If you propose changes to the approved activity, including its intended use, prior to or during its siting, construction, or operation, you must contact this office immediately to determine if further review and approval of the revised project is necessary. Changes may require amendments to this consistency finding.

DGC-11

If the proposed activities reveal cultural or paleontological resources, please stop any work that would disturb such resources and immediately contact the State Historic Preservation Office (907-269-8720) so that consultation per section 106 of the National Historic Preservation Act may proceed.

ADF&G NEPA comments will be sent separately to the USFS by that agency. If you have any questions regarding the ACMP process, I will be out of the office from October 11, 2000 through November 17, 2000, so please contact Rex Blazer at 907-465-8791 or email Rex_Blazer@gov.state.ak.us.

Sincerely,



Jennifer R. Garland
Project Review Coordinator

Cc:

** Kevin Hanley, DEC, Juneau
** Jim Cariello, DFG, Petersburg
** Lana Shea Flanders, DFG, Juneau
** Tom Paul, DFG/DWC, Juneau
** Jim Eleazer, DNR/DOF, Juneau
* Judith Bittner, DNR/SHPO, Anchorage
** Rex Blazer, DGC, Juneau

*=fax

**=email

Response to Letter #5 - ADGC

State of Alaska, Division of Government Coordination

ADGC-1

If there will be any modification of the Woodpecker Cove log transfer facility or any other log transfer facility used for this project, a consistency determination with the Alaska Coastal Management Program will be made and sent to the Alaska Division of Government coordination for review.

ADGC-2

Your concurrence with our consistency determination is noted.

ADGC-3

Your request for a discussion of the measures to be taken to ensure windfirmness resulted in: 1) discussion of windfirm buffers on the unit card narratives, and 2) a discussion of other precautions taken to ensure windfirmness in the Introduction to Unit Cards (Appendix B).

ADGC-4

The years that the managed stands were harvested are now on the Unit Card maps.

ADGC-5

We included the 300-foot line on the information we gave to the State during Coastal Management Zone review. A copy of this map has been placed in the project planning record. No high value resident fish streams as rated by the Alaska Department of Fish and Game have been identified within the project area (per discussion with Jim Cariello, Alaska Department of Fish and Game).

ADGC-6

We have added a statement that identifies the VCUs within the project area that are on the State of Alaska's list of VCUs with the highest Community Use Values. This includes portions of VCUs 447 and 452 (Figure 1-3). This information has also been added to Chapter 3, both in the introduction and in the subsistence section.

The supporting data from ADFG has been added to the Woodpecker Project planning record. We appreciate your willingness to discuss the ACMP MOU issues with us. We support the interagency collaborative process and look forward to working with you in the future.

ADGC-7

Although the DEIS referred to the revegetation projects on "actively eroding" sites, the sites in question do not pose a serious risk of degradation of water quality.

We agree that it is important to revegetate these sites. At the time of the project analysis, we wanted to achieve a more integrated approach by incorporating any project opportunities we identified in the project area. These projects do not require inclusion in an EIS, but would have the required analysis documented with a categorical exclusion, as required by NEPA. NEPA requires compliance with other laws and disclosure of all effects on other resources to minimize possible impacts. A categorical exclusion is used to identify any extraordinary circumstances, such as the presence of an endangered species or a heritage resource site. Since the Woodpecker

Response to Letter #5 - ADGC

Project Area EIS was not completed as originally scheduled, a categorical exclusion for implementation of these projects was completed, based on the surveys done during the Woodpecker Project analysis, and fieldwork has begun. We left these projects in the FEIS for consistency between the Draft and Final EIS. Updates were made to the Final EIS to reflect these changes.

ADGC-8

We agree that Alternative 3 is the most environmentally preferred action alternative from biological and physical considerations because of the items you mention.

We do want to point out that all action alternatives contain about the same amount of small sale opportunities. All units along the existing road system may be offered as small sales. In addition, if new classified roads are built, such as for Alternatives 2 and 5, new opportunities for offering some units along these roads for small sales may exist.

The current appraised value was done for all the units in each alternative for comparison only. If the units were separated out for multiple sales, the appraised value would be different for each of the sales, depending on the current market value and logging costs.

We acknowledge your preference for Alternative 3.

ADGC -9

Currently, barging is the recommended water transfer method. The ability to raft logs instead of requiring barging is left as an option for circumstances in which small amounts of logs need to be moved that would not warrant the expense of moving in a barge. This may happen with a very small sale or incidental amounts of certain species or grades of timber that may need to be moved off Mitkof Island. We reserve the right to raft small quantities of round logs, if permits for the log transfer facility allow.

ADGC-10

All applicable state and federal laws and regulations will be met. If the proposed Selected Alternative is markedly different from the preferred alternative described in the DEIS, a project clarification document will be sent to ADGC prior to the distribution of the FEIS.

ADGC-11

If any additional cultural or paleontological resources are discovered that may be affected by project activity, the activity will be suspended and the State Historic Preservation Office will be notified for consultation.

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

Habitat & Restoration Division

TONY KNOWLES, GOVERNOR

Box 667
Petersburg, Alaska 99833
PHONE: (907) 772-3801
FAX: (907) 772-9336

Cynthia Sever
USFS
Petersburg Ranger District
PO Box 1328
Petersburg, Alaska 99833

Dear Ms. Sever,

The Department of Fish and Game has reviewed the Draft Environmental Impact Statement (DEIS) for the U.S. Forest Service's proposed Woodpecker Timber Sale. Specifically, this sale proposes to harvest between 6 and 27 MMBF of timber from approximately 500 to 1,850 acres, and to construct up to 4.8 miles of new permanent road and 6.1 miles of temporary road, depending on alternative. Under all the action alternatives, ten miles of existing, permanent roads would be physically closed by removing all of the drainage structures. In addition, five stream crossing structures on Road 6245 that have the potential to restrict fish passage would be reconstructed to ensure that fish passage is provided. Associated with this project is the use of the existing permitted log transfer facility (LTF) at Woodpecker Cove.

The DEIS identified Alternative 2 as the Forest Service's preferred alternative for this project. This alternative proposes to harvest approximately 12 MMBF of timber from an estimated 1,140 acres, and would involve the construction of 4.8 miles of new permanent road and 6.1 miles of temporary road. We offer the following NEPA comments concerning this project.

NEPA COMMENTS

200 Year Rotation

In numerous places, the DEIS credits the 200 year rotation with providing additional measures to protect or minimize cumulative effects to wildlife. While the longer rotation was intended to provide protection of key deer habitat, it has limited value when applied forest-wide with a decadal ceiling and not at a project or WAA level. The accelerated harvest of timber in the Woodpecker Project Area early in the rotation will jeopardize the

ADFG-1

ADFG-1

future use of the area by both subsistence users and small timber operators. In a letter from Acting Forest Supervisor, James Bartelme, to Tongass Assistant Forest Supervisors and District Rangers it states: "Implementing the standard and guideline as specified above will allow project level decisions to protect site specific deer habitat. Protection is expected to be achieved through better identification of deer habitat, deferring timber harvest activities for longer periods of time, and utilizing silvicultural prescriptions consistent with deer habitat objectives." While the Woodpecker Project considers silvicultural prescriptions which may be beneficial to wildlife Alternative 3 is the only one which proposes to harvest a volume of timber consistent with the objective of this standard and guideline.

Small Old Growth Reserves

ADFG-2

The Department has spent a considerable amount of time meeting with the FS and USFWS to discuss the location of the small old growth reserves. The VCU's within the project area are among those identified on page 33 of the Tongass Resource Assessment for Southeast Alaska as having the highest Community Use Values. Considering the importance to subsistence deer users we feel that including the South Blind Slough OGR is warranted to provide additional protection of important deer habitat. We recommend incorporating the proposed Interagency Collaborative Design into the selected alternative.

Watershed Improvement Projects

ADFG-3

The watershed improvement projects listed in Appendix B proposed for Alternatives 2,4 and 5 should also be incorporated in into Alternatives 1 and 3. Revegetation of disturbed areas is required by BMP's 12.17 and 14.8.

Maintenance of System Roads:

ADFG-4

Maintenance of roads in the project area is a concern for water quality. There were numerous problems identified in the Road Condition Survey which have not been addressed in the DEIS. For example, Road 6282 had numerous problems associated with it, which require corrective action. There were 19 sites identified where ditch plugging was reported, 4 sites with water running down the road, 14 sites reported cut or fill slope erosion and 7 culverts reported blockages. Road 6245 also reported an additional 27-blocked culverts. In addition, there are currently three road closures on system roads in the Woodpecker Project Area due to slides or road failures that have occurred in the past year. Heavy rains in the past few months resulted in several "washouts" to roads in the project area and reaffirms the need for increased preventive road maintenance. There are several places where undersized or plugged culverts are diverting water down the road surface (for example Road 6245, mile 14). We recommend a thorough review of the RCS data for undersized, missing or blocked culverts and ditch/road surface erosion features with corrective action included the FEIS.

Letter #6 - ADFG

ADFG-5

In addition to the five culverts on Road 6245 proposed to be replaced to provide fish passage, the Road Condition Survey also identified two sites on Road 6282 where additional information was needed to evaluate fish passage. We also recommend these sites be evaluated prior to the reconstruction of the road and corrective action be taken if needed.

ADFG-6

Due to the number of problems identified on system roads in the Woodpecker Project Area we support the decision to close Roads 6280, 6281, 6283, 6284, 6287 and 40083. However, we do not support the construction of 4.8 miles of new permanent road, 6.1 miles of temporary road and the loop road connection as proposed in Alternative 2 due to the increased risk upon water quality and the uncertainty of road maintenance funds in the future.

Windthrow

ADFG-7

The DEIS lacks specific information on the potential for windthrow and the relative risk for retention within units and in riparian areas. The Woodpecker Project Area is very exposed to southeast winds and the area has a history windthrow. In the discussion of past timber harvest on page 3-127 of the DEIS, it states: "All of the harvest units were clearcut and many sales involved the salvage of blowdown timber." While the discussion of wind disturbance on pages 3-134 & 135 gives an overview of stand development and wind, the DEIS does not disclose exactly what measures were taken to assure windfirmness of retention within units and in riparian areas. In addition, the unit cards do not include a discussion or acknowledgement of the possibility of blowdown and measures taken to prevent it. We recommend the unit cards include the susceptibility to windthrow as a concern where appropriate along with the mitigation measures to minimize windthrow.

Silvicultural Systems

ADFG-8

The DEIS lacks specificity in the descriptions of certain silvicultural systems, both in Chapter 3 and on the unit cards in Appendix B. The uneven-aged system, which removes trees distributed across the stand, does not specify exactly what treatment or criteria is proposed. The unit cards do not display stand volume information or give a good picture of how the stand will look after harvest and should include more detail on diameter, species or spacing of trees removed. The unit cards should clarify whether the percent removed is basal area or stems per acre along with the estimated volume. All recent Stikine Area DEIS documents (Crane Rowan, Skipping Cow, Madan) provided this information and the unit cards gave excellent descriptions of the silvicultural prescription. Presumably the silvicultural details in partial harvest stands have already been determined, as it would be necessary to know them for inputs into the stand visualization software used in deer habitat capability analysis.

Deer Habitat

ADFG-9

We thank the Forest Service for its September 27 letter responding to our questions about the deer model used in the DEIS and the discussion of the benefits of second growth thinning. Our questions 1-3 dealt with the deer model. The Forest Service used stand visualization software to try to estimate the effects of partial timber harvest on deer. Although SVS and FVS are useful tools in visualizing overstory response over time, they do not show understory response. We do not agree with the Forest Service's statement that it used "the best scientific knowledge available." Multi-year studies of the effects of partial harvest on understory and overstory vegetation have been conducted by ADF&G's Matt Kirchhoff and Bob Deal of the U.S. Forest Service. The Woodpecker IDT did not refer to published literature from these studies (Kirchhoff 1997, Kirchhoff and Thomson 1998) or consult knowledgeable ADF&G biologists. The Woodpecker project team is one of several on timber sales recently to try unilaterally to adjust the deer model to account for the effects of partial timber harvest. The Woodpecker IDT and other Forest Service project teams need to consult with experts on deer from other agencies when adapting the interagency model.

ADFG-10

Our questions 4-6 pertain to thinning of logged stands. The Forest Service asserts in the DEIS and in its response to our questions that through thinning it can prevent declines in deer habitat carrying capacity from canopy closure in logged stands, although it admits lack of complete knowledge on what it takes to prevent canopy closure. It points to the high percentage of thinned stands in the project area as evidence of its commitment to thinning, however refuses to commit to a long-term thinning schedule in the DEIS. Data that exist on thinning suggest that thinned stands need to be thinned again within 20 years or canopy closure will occur. Although large-scale logging has been going on for 50 years in the Tongass few, if any acres have been thinned more than once. Given this history of a lack of commitment to the long-term, repeated thinning necessary to "prevent the projected 10% decline in...carrying capacity", we believe the Forest Service needs to clearly commit to a thinning timetable or delete the statement from the DEIS.

Coarse Canopy High Volume

ADFG-11

ADF&G remains concerned about disproportionate harvest of rare, coarse canopy, very-high-volume stands. These high-volume stands occur on only 2% of the Forest and are unique community types that often represent high-value wildlife habitat. The Forest Service did not include information on these stands in the DEIS, however, remaining coarse canopy, high-volume stands in the project area are shown on a Forest Service vegetative characteristics map of Mitkof Island. The stands are rare in the Woodpecker Area. A small stand of a few acres appears to occur in the old growth reserve. Two stands containing most of the remaining acreage of this type are in the southern part of the project area. Harvest units 121, 122, 122a, 125, and 128 in Alternative 2 and 128 in Alt. 3 appear to be located either partially or completely in these stands. Harvest prescriptions call for 75% retention. We would prefer no harvest occur in these stands as more than

Letter #6 - ADFG

ADFG-11

50% of this type of habitat has been harvested forest wide, and a disproportionate amount has also likely been taken from Mitkof Island in the past.

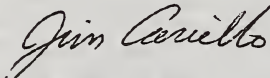
Recommendation for a Selected Alternative

ADFG-12

Alternative 3 best addresses the significant issues identified during scoping while meeting the desired future conditions for the Woodpecker Project Area which were identified as part of the Mitkof Landscape Design with extensive involvement from the public. This alternative has the least impact on wildlife, only has one Class II and one Class III stream crossing, does not construct any new permanent road, and has the highest appraised economic value.

Thank you for the opportunity to comment.

Jim Cariello



Area Habitat Biologist

Literature Cited:

Kirchhoff, M.D. 1997. Effects of selection logging on deer habitat in Southeast Alaska. Alaska Dept. of Fish and Game. Fed. Aid in Wildlife Restoration. Research Progress Report. Study 2.11. 10 pp.

Kirchhoff, M.D. and S.R.G. Thomson. 1998. Effects of selection logging on deer habitat in Southeast Alaska: a retrospective study. Alaska Dept. of Fish and Game. Fed. Aid in Wildlife Restoration. Research Final Report. Study 2.11. 37 pp.

Response to Letter #6 - ADFG

State of Alaska, Department of Fish and Game

ADFG-1

In *AFA v. USDA*, the U.S. District Court, District of Alaska vacated the 1999 Record of Decision for the Tongass Forest Plan and upheld the 1997 Record of Decision. The Woodpecker Project is now consistent with the 1997 Record of Decision for the Revised Tongass Land Management Plan. However, because of the concerns for deer winter habitat, landscape connectivity, scenery, and marten habitat, the rotations for proposed harvest units were extended to 200 years for this project. This would allow larger diameter trees to be maintained that would benefit many wildlife species and result in less visual disturbance to the area.

Units using a two-aged silvicultural system (20-30 percent retention) would retain those trees to 200 years, which would allow them to grow bigger and provide more opportunity for cavity nesters, and eventually larger down dead logs for denning. Uneven-aged management units would have subsequent entries based on the 200-year rotation also, allowing the growth of larger trees.

We are unsure of how you draw your conclusion that Alternative 3 is the only alternative with a volume consistent with the standard and guideline. To date, about 17 percent of the suitable acres and 14 percent of the productive acres are in managed stands (second-growth timber) and the rest of the commercial forest is old-growth timber. At the end of the harvest of the proposed units, we would be roughly 50 years into the rotation, or 25 percent of 200 years, since the beginning of the rotation (based on 1954) when large-scale harvest in the Tongass National Forest began. (Large-scale harvest did not begin in the Woodpecker Project Area until the 1970s because harvest was taking place in other parts of the forest). This relates to the amount of the proposed harvest in all alternatives. The standard and guideline was meant to be incorporated Forest-wide since the rate of timber harvest is calculated on a Forest-wide basis. The letter you cited calculated that the current ongoing projects for the next five years (1999-2004) were well under the decadal ceiling for the Forest and would continue through the planning process. This includes the Woodpecker Project Area.

ADFG-2

Your recommendation for the Interagency Collaborative Design for small old-growth habitat reserves (Option 1) is noted.

ADFG-3

We agree that it is important to accomplish these projects. Please refer to our response to comment ADGC-7 for an explanation of the status of these projects.

ADFG-4

A thorough review of the Road Condition Survey information with recommended corrective actions will be included in the reconstruction or maintenance requirements of the timber sale contract, or if the road is not used for timber transport, in a road maintenance contract as funding becomes available.

Response to Letter #6 - ADFG

ADFG-5

These two sites on Road 6282 were evaluated. One was found to provide adequate fish passage, and one fell within the “gray” area due to the steepness of the pipe. Further evaluation will decide if this pipe will need to be corrected. Though the grade on this pipe is steeper than 1 percent (one of the criteria for fish passage through culverts), this pipe has a gravel-covered bottom, which mimics a natural streambed.

ADFG-6

Your support for the storage of roads 6280, 6281, 6283, 6284, 6287, and 40083 is noted, as well as your comment on the proposed road construction. The proposed classified and temporary roads facilitate the removal of harvested timber. All temporary roads will be decommissioned after timber harvest is complete, and only 1.8 miles of classified road will be left open with the Selected Alternative. By examining all the roads, we identify those roads most useful to maintain and thereby reduce our maintenance needs. This information is found on the Road Cards for the project area, located in Appendix B.

ADFG-7

The windfirmness section has been expanded to include more discussion both in Chapter 3 and the Introduction to Unit Cards. Information about windfirm buffers has been included on the unit card narratives. Within the Selected Alternative, several units were replaced with units that are less susceptible to windthrow.

ADFG-8

Much of the information about the silvicultural systems was included in the Introduction to Unit Cards rather than on the individual cards. Part of the confusion, we feel, is that we stated that the Marten Standards and Guidelines will be met without describing the criteria. We have modified this in the FEIS both in Chapter 3 and the Introduction to Unit Cards.

All units were field verified to ensure that the proposed harvest treatment would be suitable for the stand. However, in order to minimize costs, the detailed silvicultural prescriptions, as well as the marking guides, will only be determined for those units in the Selected Alternative after more field reconnaissance is obtained. The information used for the stand visualization was obtained from reconnaissance plots taken in some of the units in combination with a general assumption for all stands of that type. We felt that we did have enough information to be useful to a project wide analysis, but not accurate enough to be applied on a stand-by-stand basis. Because of this, we were liberal in overestimating the effects by using the clearcut value for units with 20-30 percent retention.

We have included an estimated volume per unit on the Unit Cards. We were initially reluctant to do this since accurate volume can only be obtained by a statistically valid cruise, which is costly, time consuming, and usually occurs after project planning is completed. The estimated volume is based on GIS information with some adjustments made after field reconnaissance occurred. Past experience with using estimated volume from GIS for partial harvest units has provided mixed results in comparison to the ultimately cruised volumes. We are working on obtaining a way to estimate volume by using information on previous sales by locality but this is not available yet. Also, we are trying to get people focused on stand structure and function rather than strictly volume.

ADFG-9

When we referred to “the best scientific knowledge available” in our September 27 [2000] letter, we were talking about the science used in the development of the SVS and FVS programs. The assumption made for understory responses is that they would be similar to natural stands containing that amount of overstory resulting from natural disturbance.

You are correct that we did not include Kirchhoff 1997 in our literature cited. Thank you for pointing out this publication. The Kirchhoff and Thomson 1998 study that you mention is not a peer-reviewed article. We reviewed this report and responded to the principle author (February 8, 1999 letter from Carol Jorgensen to Matt Kirchhoff). However, in this publication Kirchhoff states that his study objective was: “...to develop prescriptive alternatives to clearcutting that mimic natural disturbance patterns, and thus better preserve habitat quality for Sitka black-tailed deer (*Odocoileus hemionus sitkensis*) and other old-growth associated wildlife.” That is what we are proposing for some of our harvest treatments. We applied new information from studies on nearby islands, (Kramer 1997, Nowacki and Kramer 1997, Bormann and Kramer 1998) to design harvest patterns that mimic natural disturbance patterns. Our objective is to better preserve wildlife habitat relative to that which would occur through the use of clearcutting.

Another point to remember is that we are proposing harvest units in areas where the Forest Plan allows timber harvest. There is a considerable difference between the forest stands displayed in the Kirchhoff and Thomson report and the proposed units in the Woodpecker Project Area. All of the plots in that report are within 500 feet of the beach and the proposed units in the Woodpecker Project Area are on the uplands, with none closer than 1000 feet from the shoreline and most on interior slopes.

As we stated in our letter dated September 27, 2000, we did not attempt to adjust the deer model. We tried to depict what we think will happen when these prescriptions are applied after the results of the deer model were obtained. We felt this gave a more accurate picture of what would happen. The National Environmental Policy Act (NEPA) directs us to disclose what we know and what we expect will happen as a result of our actions. We ran the interagency deer model (the model used in the 1997 Forest Plan) as it was designed. This model predicts what will happen when timber is harvested using clearcutting. We stated this to be a worst-case scenario and then tried to predict what would happen when other partial harvest prescriptions were applied. Our use of the SVS and FVS programs to describe what would happen when timber is removed is well founded. Kirchhoff and Thomson 1998 used the same SVS program to depict and predict what would happen following harvest. On page 5 of that report under the heading “Overstory Composition and Structure” the authors state:

“We analyzed overstory composition and structure, using a geometric model (Stand Visualization System, McGaughey 1996). This software program graphically displays trees and down material to scale and in spatially correct terms, allowing the user to depict the stand from any distance or angle. Tree attributes measured in the field include spatial locations, species, height, dbh, crown ratio and damage indicators. We specified values for growth form and color (of bole branches and needles) to yield realistic-looking trees of each species. The program computes tabular summaries for each plot, including mean, standard deviation, minimum and maximum statistics for dbh and height of all live trees, stumps and snags. Bar charts showing the diameter-class distribution, height-class distribution and species distribution of live trees, stumps and snags are also generated.”

Response to Letter #6 - ADFG

We concur with Kirchhoff and Thomson that it is appropriate to use SVS to predict changes in stand structure and composition following partial harvest.

ADFG-10

We disagree that there is no commitment to thinning on the Petersburg Ranger District. We have already thinned approximately 25,450 acres on the Petersburg Ranger District. This is approximately one-third of the acres that have been clearcut. We have also re-thinned some stands that experienced canopy closure after thinning.

Timing between thins varies. It is contingent upon the age of the stand when it was first thinned, the stand productivity, spacing, introduction of another cohort of seedlings, and the average stand diameter. Initial thinning occurs at about 25 to 30 years of age when, generally, there is still some of the herbaceous forage in the understory. Spacing is relatively wide, 16 feet between trees, which allows for adequate light for release of the herbaceous layer. Rarely will a stand need a second thin before 50 to 60 years of age. The more productive the stand, the sooner the next treatment (another thin) will be necessary to maintain understory growth and promote tree growth. However, the more productive the stand, the sooner it will be feasible to schedule a commercial thin. A commercial thin is less dependent on budget allocations and is fiscally more viable.

The section on thinning in the Timber and Vegetation section in Chapter 3 addresses the reasons why existing managed stands within the Woodpecker Project Area have not been thinned at this time. Most of the harvested acres in the Woodpecker Project Area that have not been thinned are either too young for thinning to be effective, or they are on state lands. Since some stands will never need thinning due to natural stocking levels, examinations are scheduled to determine if and when thinning may be needed. These surveys are scheduled in the Silvicultural Information System database. The first check is done 18 years after the stand is harvested and then subsequent exams are done every five years, if the stand is not ready at that time.

Once it has been determined that a stand can benefit from thinning, the information is updated and funding is requested for precommercial thinning on an annual, regional basis and environmental analysis is done at that time. If, during this analysis, we had identified stands on National Forest System land in the Woodpecker Project Area that needed thinning within three to five years, we would have included them as projects in this EIS (see Crystal Creek Record of Decision, October 1998). As we stated in our September 27 letter, all of the unthinned second growth stands in the Woodpecker Project Area that are ready for thinning are on state lands.

We believe that our statement that future thinnings can prevent the predicted "worst case scenario" 10 percent decline in deer carrying capacity is well founded. For example, during a trip with ADF&G to count pellet groups on Big and Little Level Islands (1999), Petersburg Ranger District Wildlife Biologist Joe Doerr was able to monitor and report findings concerning deer use of re-thinned harvest units. He reported that according to pellet groups collected, deer usage in the harvest units was higher than we expected because of the retained understory in each stand. A copy of this report was forwarded to ADF&G with the September 27, 2000 letter. This information has been added to the Wildlife section in Chapter 3.

Response to Letter #6- ADFG

While we cannot say with certainty that we will continue to thin all stands in the future, because of the uncertainty of future funding, we plan on thinning all stands when it is the correct time to do so.

ADFG-11

The “coarse canopy, high volume stands” to which you refer are from a research study by Caouette, et. al., which is still being reviewed. Until we have direction to apply the conclusions from this study, we will continue to use volume strata.

Most of the acres identified by Caouette as coarse canopy, high volume within the Woodpecker Project Area are small old-growth habitat reserves or beach and riparian buffers on National Forest System land. Units 125 and 128 are not included in the Selected Alternative to partially address this concern. Seventy-five percent of the stands in units 121, 122, and 122a will be retained, which will maintain this type of canopy.

The coarse canopy in the vicinity of Units 121, 122, and 122a may have developed because of previous logging during the early 1900's. The harvest of individual trees created openings that enhanced the growth rate of the adjacent trees. The trees that regenerated in the openings are now mid-sized, with smaller crowns. This gives the canopy a more diverse structure relative to an even-aged stand of trees with uniform heights and crown diameters.

ADFG-12

Your preference for Alternative 3 is noted.

Letter #7 - Slaght

Wednesday, October 11, 2000

To: Patty Brantham, District Ranger and Cynthia Lever, Team Leader U.S. Forest Service Petersburg Ranger District Petersburg, AK —

Dear Patty and Cynthia —

I've read the DEIS for the Woodpecker Project Area and I'm in favor of Alternative 2. I was tempted to recommend Alternative 5 because it offers a prospect for about twice the much needed jobs (142 compared to 65 direct jobs for Alternative 2). However, having once been a helicopter logger myself, I know how much money helicopter maintenance and ^{fuel} expenses will come out of the project for the given timber harvest volume if Alternatives 4 or 5 are selected. Also, I'd rather see the local loggers have a good chance to work rather than an out-of-area helicopter outfit.

Peterburg's economy is starting to really ~~hurt~~ ^{hurt} after several years of greatly reduced local timber harvesting, and, more recently, a significant down-turn in fishing and processing earnings. Without some logging jobs in the area, I feel a continued decline in fishing and processing dollars will be extremely dangerous for the local economy.

I've experienced, first-hand, the negative effects of a specialized economy in decline (had to re-locate). Economic diversity offers more resilience in challenging periods for local economies experiencing negative growth or decline of a given industry.

I'm glad that Alternative 2 will offer a mix of logging techniques and varying sale volume sizes. I'm in favor of enabling small operators to have a chance to bid these sales.

Slaght-1

②

Slaght-2

Petersburg's economy would benefit from the new jobs created by the Woodpecker project Area timber sales. The twenty-five percent of timber receipt money paid out to the schools and roads would help the local school district which has lost much funding following a decline in timber sales in the area in the last decade. A drop in enrollment has compounded funding problems for Petersburg schools. As the father of two young children attending public school in Petersburg, I am concerned about a continued decline in the local economy and a related decline in school funding if enrollment continues to drop. Again, we need economic diversity.

Slaght-3

The innovative approach of variation in the leave tree density across the landscape opens up some interesting possibilities for wildlife management and recreation. Different wildlife species as well as people will benefit from the open space created by selective harvesting. The amount of forage for wildlife should increase. In time, there will be a healthy understory that will become a multi-age or two-age stand. Initially, it will be much easier to see into such a stand of timber and for people to cover distances on foot. Hunting would be enhanced for anyone leaving the road and walking into the stand. But for less fit and able hunters, an opened up stand of timber will offer better spotting capabilities from outside the stand. Elderly hunters could benefit.

Letter #7 - Slaght

③

The fact that 12 million feet of timber will be logged from an 1140 acre land-base (Alt 2) indicates a sound plan for careful management practice. After studying the DEIS, I believe the project will have very minimal adverse affect on the fish and wildlife habitat in the area. Well done!

I also agree with Joe Doerr's philosophy that this type of management will actually enhance Moose habitat in the area for some years to come. ^{that's a plus.} ~~That's a plus.~~ I look forward to hunting moose in the Woodpecker area in the future.

Slaght-4

The prospect of the loop road created by connecting Woodpecker Road with Road 6282 is a good idea. Also, thanks for the commitment to fix five stream crossings for better fish passage. That is a very positive project feature in addition to the possibility for much needed timber jobs; a boost to the local economy, new recreation opportunities, and improved school funding.

④

I believe the implementation of Alternative 2 would carry far more positive than negative results while generating approximately 65 direct jobs over a five year period. The fact that 83.3 ~~percent~~^{percent} of productive old-growth is to remain after harvest based on POG existing in 1954^(pg 94) shows a slight impact on the forest in a 50 year period. The fact that ~~no~~^{threatened or} endangered ~~species~~^{terrestrial} are known to occur within the Woodpecker project area^(pg 99) is very significant.

The retention of 20-75 percent of the trees in the action alternative harvest units in addition to stream buffers (pg 152) should equate to a minimal or no negative impact on the fish habitat in the project area. I also read that no class I streams in the area currently have fish passage problems. Very good.

The carrying capacity ~~of~~^{for} the areas deer population is only expected to fall by 1.3 percent after harvest and 11.3 percent by 2043 (pg 113). ~~However~~^{However}, the carrying capacity by 2043 will only ~~be~~^{suffer} ~~a~~^a ~~drop~~^{drop} two percent or so more decline than it would have been with the no-action alternative. My attitude is, what's a couple percent decline in carrying capacity over many years compared to the positive benefit to Petersburgs economy if 65 jobs are created over a five year period? Forest service figures are worst-case scenario.

I appreciate the targeting of dwarf-mistletoe infected hemlock trees for harvesting in the units. From having spent many years logging in the Pacific Northwest California, and Alaska I feel it's good for the 'health' of a forest to salvage dead and dying, forest fire burned, and windthrown timber. The result is a vibrant, good-looking stand of timber if the salvage or select

Letter #7 - Slaughter

⑤

Logging has been done properly.

The threshold of 20 per cent of the timber volume in watershed areas over a 30 year period ^{shows} a conservative approach to management ^{of these areas}.

wonder if the public in general is aware of this threshold? I've noticed that out of eight watersheds listed for the project on page 160 only Watershed Seven comes close to the 20 per cent threshold, with 17.2 per cent. Four of the other watersheds harvested were at less than five per cent ^{in the past 30 years} that seems like very low impact to me.

^{large areas of} The avoidance of high hazard unstable soils for all proposed new road locations in all alternatives should have minimal erosion impact and corresponding sedimentation of streams. It's interesting to note that in spite of the intensive clear-cutting in recent years ^{in recent years} on ⁱⁿ National Lands ⁱⁿ Coastal Alaska with no stream buffers and little attention paid to mitigation, the Southeast Alaska region has experienced record salmon runs until this last season. I feel that the fish and wildlife habitat ^{areas} in Alaska are vastly more resilient than many people give ^{them} credit for being.

But nonetheless, I can appreciate the fine job of planning, researching, mitigating, presenting to the public for review, and considering public comments and concerns, you at the Forest Service have done and are doing.

⑥

I could have written many pages commenting on what I think are positive issues covered in the Woodpecker DEIS. It's impressive to me that the interdisciplinary team worked so well to produce such an in depth and comprehensive DEIS. I can't see any real weakness in the plan. As I've stated previously, I feel that the earth is much more resilient than many give her credit for being. And I don't feel we'd be treading too hard on the Woodpecker project area if Alternative 2 ~~is~~ or something ~~other~~ similar is chosen.

The text was easy to read and the document was well put together. Well done!

Sincerely,

Jack Slaght, Second Assistant Engineer
Motor Vessel LeConte
Ketchikan Shipyard
Ketchikan, Alaska

RECEIVED
OCT 13 2000
FOREST SERVICE

Response to Letter #7 - Slaght

Jack Slaght

Slaght-1

Thank you for reviewing the DEIS. Your support for Alternative 2 is noted. Your concerns for the costs of helicopter logging and your support of local operators is also noted.

Slaght-2

The Secure Rural Schools and Community Self-Determination Act of 2000 was signed into law on October 30, 2000, replacing the Twenty-five Percent Act of 1908. These acts provide for part of the timber sale receipts for national forest timber to be returned to the states to be used for public schools and roads. The states then distribute the receipts to organized boroughs and municipalities based on miles of road and school enrollment.

Communities within the Unorganized Borough, which includes Petersburg, will receive payments based on the state's three highest payments between the years 1986 and 1999. This payment would continue until fiscal year 2006.

Slaght-3

Your views on the positive effects of partial harvest on wildlife and recreation are noted.

Slaght-4

Your support for the proposed loop road and the stream crossing improvements is noted. These projects are included in the Selected Alternative.

Currently, a contract to survey, design and reconstruct 29 stream crossing structures on Mitkof Island with identified fish passage problems is in progress. This contract includes four of the five identified sites within the Woodpecker Project Area. Further analysis and interagency review identified the fifth site as having a lower priority than other sites on Mitkof Island since it involved only 30 square meters of upstream habitat.

Letter #8 - Bennett



"Lyle and Carol
Bennett"
<bennett@mitkof.net>

To: "Forest service" <csever@fs.fed.us>
cc:

Subject: Woodpecker road project

10/12/00 12:36 PM

To the Woodpecker Project Area

Ben-1

First I would like to state that I use the Woodpecker road for hunting, fishing and recreation. I have lived on Mitkof Island all my life and since the Woodpecker road has been built I have spent a lot of time on it.

Having gone over the environmental impact statement for the Woodpecker Project area, I would like say that I support the Alternative 2 proposal and believe it would not impact the deer population nor would the small amount of logging hurt them in anyway. The Proposed reconstruction of the culverts at stream crossing to make them more fish friendly is a sound and needed project. I also would like state that the proposed timber cuts do not offer anymore of a chance of blow down than what has always been there.

The connecting of spur 6282 with the main road will allow us better access for both recreation and hunting. This would also give us another route if one of the roads was ever blocked for some reason.

More roads on Mitkof Island is a good thing.

Lyle Bennett
P.O. box 1547
Petersburg Alaska 99833

Response to Letter #8 - Bennett

Lyle and Carol Bennett

Ben-1

Your support for Alternative 2 is noted. Alternative 6 is the Selected Alternative, which includes the loop road and the stream crossing improvements you support.

Currently, a contract to survey, design and reconstruct 29 stream crossing structures on Mitkof Island with identified fish passage problems is in progress. This contract includes four of the five identified sites within the Woodpecker Project Area. Further analysis and interagency review identified the fifth site as having a lower priority than other sites on Mitkof Island since it involved only 30 square meters of upstream habitat.

Cynthia —



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
1689 C. Street, Room 119
Anchorage, Alaska 99501-5126

Received

OCT 13 2000

Tongass N.F.

ER 00/0612

October 11, 2000

Ms. Patty Grantham *H 10-21*
District Ranger
Petersburg Ranger District
USDA Forest Service
P.O. Box 1328
Petersburg, Alaska 99833

Dear Ms. Grantham:

The Department of Interior has reviewed the August 2000 Draft Environmental Impact Statement (EIS) for the Woodpecker Timber Sale on Mitkof Island near Petersburg, Alaska. Our comments, below, cover the following topics: range of alternatives analysis, old-growth habitat; deer habitat; marten habitat; northern goshawk; fisheries; Log Transfer Facilities (LTF); water quality; wetlands; and watershed. We request that these comments be addressed in the Final EIS.

PROJECT DESCRIPTION

As outlined in the Draft EIS, the U.S. Forest Service (USFS), Tongass National Forest, proposes to harvest between 6 and 27 million board feet (MMBF) of timber from 500 to 1,850 acres, depending on the chosen alternative. Construction of up to 4.8 miles of new road and 6.1 miles of temporary road is also proposed. The project area is located on the southwest part of Mitkof Island, approximately 27 miles south of Petersburg in Southeast Alaska. The project area is approximately 33,000 acres in size and includes 18,613 acres of the Crystal Inventoried Roadless Area #224. A log transfer facility (LTF) exists in Woodpecker Cove. Past timber harvest includes 2,930 acres scattered throughout the project area. Three small old-growth reserves (OGRs) are located in the project area. One follows the western coast along Wrangell Narrows (Wrangell Narrows OGR), one is located north of Woodpecker Cove (Woodpecker Cove OGR), and the third is located along the southeast coast (South Blind Slough OGR).

RANGE OF ALTERNATIVES

FWS-1
FWS-2
↓

We recommend a roadless, helicopter-only harvest alternative be included in the Final EIS. Building roads in unroaded areas is a national and local concern. The proposed project area includes 18,613 acres of roadless National Forest. This area is part of the Crystal Inventoried Roadless Area 224 and was identified as issue number 4 in the Draft EIS (Chapter 1, page 28, paragraph 3) Purpose and Needs. According to the Tongass Land Management Plan (TLMP), roadless areas identified in the inventory that are not in an existing designated Wilderness Area

Ms. Patty Grantham

2

FWS-2

may be managed for a wide range of resource activities. We suggest that the selected alternative not propose any timber harvest or road construction within the Crystal Inventoried Roadless Area. We believe that the Final EIS needs to further analyze the impacts of road construction on wetlands, fish bearing streams, and wildlife within this roadless area. In addition, we suggest that timber management practices and road construction within the Crystal Roadless Area be deferred until the Tongass's role in the roadless area initiative currently being reviewed by USFS is decided.

OLD GROWTH HABITAT

We believe the cumulative effects of the action alternatives on fish and wildlife should be evaluated. Issues that should be further addressed in the Final EIS include geographic distribution of past, proposed, and future timber harvests; and fragmentation of remaining old-growth blocks and corridors. These issues are discussed individually below

FWS-3

Geographic distribution of timber harvest: The Preferred Alternative proposes to harvest approximately 696 acres (61 percent of total harvest acres) within the 0- to 800-foot elevation band (Draft EIS Appendix B, Unit Cards). Forested areas below 800 feet contain the most valuable old-growth habitats for many wildlife species. Areas below 800 feet have the highest capability for supporting Sitka black-tailed deer (Schoen and Kirchhoff 1990). Schoen and Kirchhoff (1985) reported a mean elevation of 720 feet for wintering deer during a low-snow winter and 450 feet during a deep-snow winter. Low elevation old growth is used almost exclusively by deer during the winter, especially when snowfall accumulations are high (Suring, et al. 1992). Deep snow conditions can result in high deer mortality, even in unharvested areas. We recommend the USFS analyze cumulative effects of timber harvest at low elevations over the long term, and that plans for harvest not preferentially cut low elevation (0-800 feet), high volume old growth, and that this be addressed in the Final EIS.

Old-growth connectivity: Connectivity among old-growth blocks is an important component of a landscape conservation strategy (Kiestler and Eckhardt 1994, Lidicker 1995). Interior or "core" old growth refers to those acres that are sufficiently buffered from openings and where conditions such as air temperature, moisture, understory composition, wind speed, and amount of sunlight are unaffected by the conditions in the openings (USDA Forest Service 1997). "Core" old growth is distinct from "edge" old growth, where the structure of the canopy may be similar to that found in the "core," but the nearness to openings alters the understory and microclimate conditions (Concannon 1995).

FWS-4

To maintain adequate distribution of old-growth forest patches and provide connectivity, we recommend incorporation of the existing TLMP OGR plan design (Draft EIS Figure 2-7) with add-ons of 460 acres in Value Comparison Unit (VCU) 448, and an additional area to the north of Wolf Track Lake, to meet TLMP, Appendix K, size requirements; or the Interagency Collaborative Design (Option 1, Figure 2-8) for the Woodpecker Cove, Wrangell Narrows, and South Blind Slough Small OGR.

Ms. Patty Grantham

3

DEER HABITAT

Sitka black-tailed deer receive the highest sport hunting and subsistence use of any terrestrial species in the project area (Draft EIS Chapter 3, page 177). Residents from Petersburg are the primary subsistence users of the area, followed by Wrangell residents (Tongass Resource Use Cooperative Survey). The quantity and quality of winter habitat is considered the most limiting factor for Sitka black-tailed deer (TLMP). Low elevation, high volume, old-growth forest has the highest habitat value because it intercepts snow and provides understory forage plants. Lack of snow interception in the early successional stages, and lack of forage in middle successional stages, reduces the habitat value of these forest stages. As proposed, the quality of deer winter range would decline in VCU 502 and 504 due to timber harvest activities converting old-growth habitat to second-growth forest. A secondary impact to deer resulting from timber harvest is the additional hunting pressure that would result with increased road access (USDA Forest Service 1997b). We recommend that harvest units be carefully planned to minimize the degradation of high-value wildlife habitat and migration corridors. Techniques used may include avoiding or minimizing road construction and utilization of innovative timber harvest prescriptions to reduce opening sizes and maintain forest structure across the landscape, as well as within the stand.

As stated in the Draft EIS, forage for deer declines as a result of natural succession when clear-cuts close over. Understory production is reduced to low levels when the conifer canopy closes at about age 20 to 30 years, and remains low for at least the next 100 years. Even-aged forests between 30 to 150 years old produce the least amount of understory vegetation (Alaback 1984).

FWS-5

Retention prescriptions for alternatives 2, 3, 4, and 5 are not likely to adequately provide deer forage over the long term. Chapter 3, page 9, states that "openings created in stands with 20-30 percent retention would provide forage after harvest." Kirchhoff (1997, 1998), reported that harvested stands with 20-30 percent retention generally displayed poor understory conditions when those stands reach 50- to 80-years-old. We recommend that retention be closer to 70-80 percent for maintaining persistent forage conditions. We suggest consideration be given to increasing retention levels in deer wintering areas, given that about 21 percent of the suitable forest land in the project area is already second growth (Draft EIS Chapter 3, page 128).

We understand the difficulty in assessing the habitat suitability value of units containing retention trees, and that using a clear-cut habitat suitability score may not reflect the full value of these units as deer habitat. A retrospective analysis of harvested areas within Southeast Alaska, (Kirchhoff and Thomson 1998) suggests that structure retained within a clear-cut does little or nothing to enhance the immediate value of the area for deer. We recommend that the deer habitat suitability index values for proposed retention units be the same as clear-cut units, unless harvested openings are less than ½ acre, as recommended by Kirchhoff and Thomson (1998).

MARTEN HABITAT

FWS-6

The Draft EIS (Chapter 3, page 104) states that the Woodpecker Project Area is in the Mitkof/Kupreanof Biogeographic Province. This area is identified in TLMP as a higher risk

Ms. Patty Grantham

4

FWS-6

province for viable populations of marten and other old growth-dependent species. Therefore, when implementing the marten standards and guidelines, we recommend retention of trees, snags, and logs greater than 80 centimeters in diameter, where possible. These trees should be retained in clumps, and the clumps distributed throughout the harvest units. Wilbert (1992) and Ruggiero, et al. (1998) found that martens selected denning and resting habitat in plots about 30 meters in diameter; therefore, we recommend that retained-forest patches be a minimum of that size. However, larger patches would be more wind-firm and have greater potential as marten habitat over time. The size and arrangement of retained-forest patches within the harvest units should, we believe, maximize the potential for long-term retention.

NORTHERN GOSHAWK

FWS-7

We recommend continuing annual goshawk surveys in all units included in the proposed or selected alternative until harvest in those units is imminent. We believe units where goshawk nesting is confirmed should be dropped, deferred, or modified to meet the appropriate TLMP standards and guidelines. Furthermore, we recommend against publication and public distribution of maps showing known goshawk nest sites with the Final EIS. Depictions of circular nest buffers on such maps could potentially result in nest vandalism.

FISHERIES

FWS-8

Construction of roads across fish-bearing streams creates the potential for degradation of fish habitat quality. We, therefore, recommend that the Final EIS include a detailed, long-term road management plan addressing the potential for erosion and details of maintenance following project completion for each alternative. Road cards should indicate Best Management Practices (BMPs) to be implemented. Stream crossing structures specific to channel type should, we believe, be included in the BMPs. Construction of roads through terrain identified as having a high potential for excessive sediment delivery to fish habitat should be avoided where other alternatives reasonably exist.

We recommend the Final EIS include a detailed monitoring plan to follow the post-harvest integrity of hill slopes, roads, stream crossing structures, and downstream fish habitat which may be adversely affected by the failure of applicable standards and guides to protect fish habitat and water quality.

To determine the potential effects of the proposed project on anadromous and resident fish stocks, we recommend the Final EIS include a complete inventory of all fish stocks known to inhabit the project area. Information on fish stocks should include monitoring plans in the project area and adjacent lands where fish stocks are likely to be affected by proposed timber harvest and road construction activities.

Due to the lack of information presented in the main body of the Draft EIS and in the road cards (Appendix B), we are not able to determine how fish passage will be affected by implementation of the action alternatives. We believe additional details should be added to the Final EIS on the

Ms. Patty Grantham

5

FWS-8

discussion of fish passage mitigation that would be implemented to minimize the impacts of proposed roads. The FWS is interested in working with the USFS in the resolution of this issue. We encourage you to contact the FWS fisheries staff at 907-586-7330 to discuss fish passage issues and other pertinent information.

LOG TRANSFER FACILITIES (LTF)

FWS-9

The Draft EIS (Chapter 3, page 204) states that the Woodpecker Cove LTF currently consists of a rock ramp suitable for barge or log watering use and has an adjacent staging area of approximately 1-1/2 acres. The Final EIS should indicate the type of facility that would be used to transfer logs to the water. Since barging is feasible at this site, it is recommended in lieu of conventional water-based transportation (transfer of logs into water). The installation of a low-profile, temporarily placed shot rock bulkhead similar to the one considered for the Threemile Arm LTF on Kuiu Island, is recommended. Use of this type of facility will, we believe, minimize costs and impacts to the intertidal habitat.

WATER QUALITY

FWS-10

Under Alternatives 2, 4, and 5 (but not under Alternative 1 and 3) according to the Draft EIS, sites identified as "actively eroding sites" are proposed to be revegetated with alder transplants to prevent the degradation of water quality and reduce the impact to fisheries resources. The actively eroding sites include a small landslide near the end of Road 6284 and bare cutbank slopes along Roads 6245 and 40003. We recommend that, if they pose a potential impact to degradation of water quality and fisheries, actively eroding sites such as these be revegetated regardless of the selected alternative in the Record of Decision for this project.

WETLANDS

FWS-11

The Draft EIS (Chapter 3, page 168) states that about 41 percent of the project area is wetlands and that (Chapter, 3 page 173) 6-2/3 acres of wetlands would be directly impacted by road construction in Alternatives 2 and 5. Table 3-40 of the Draft EIS indicates that the Proposed Action (Alternative 2) would construct approximately 1.1 miles of new road. It is our understanding that the USFS must apply for a Section 404 permit or show that it meets the requirements to be exempt from such a permit. To be exempt from the permit requirements, the USFS must satisfy the requirements of the 404 permit exemptions and avoid the exception to the exemptions (also known as the "recapture" provision). In either case, we believe the Final EIS should discuss wetlands permits needs or exemptions for this project.

FWS-12

Although wetlands are briefly described in Chapter 3, we believe disclosure is inadequate to describe how the proposed timber harvest will directly, indirectly, or cumulatively affect the wetlands within or adjacent to the project area. The Draft EIS should address anticipated hydrologic alterations that may affect the amount of wetlands or their function in and adjacent to the project boundaries as a result of timber harvesting or road construction (as well as effects from any past or future projects). We believe the Final EIS should disclose a detailed strategy

Letter #9 - USFWS

FWS-12

FWS-13

and prescribe methods (such as avoidance, buffers, and corridors) to protect wetlands. Wetland mitigation strategies should be included in the overall site mitigation plans. We recommend BMPs and monitoring procedures that specifically address wetland protection be developed and disclosed in the Final EIS. Furthermore, we recommend that alternatives to constructing roads through wetlands be sought. For example, we encourage investigation of the feasibility of using aerial systems to transport logs from all sale units to transport barges.

WATERSHED

FWS-14

The Draft EIS (Chapter 3, page 159) states that the acres calculated for timber harvest for Alternative 5, Watershed #7, would exceed the watershed analysis threshold because 20 percent of the watershed is in openings for less than 30 years. TLMP (Appendix J), requires that a watershed analysis report be included in a decision document when the 20 percent threshold requirement is exceeded. We recommend that a watershed analysis report for Watershed #7 be included in the Final EIS.

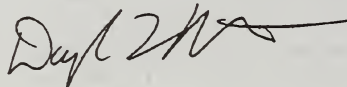
CONCLUSION

FWS-15

We believe that alternatives 5, 4, 2, and 3 (listed in order of magnitude) would have the most negative impact on fish and wildlife, especially those associated with old growth habitat. We recommend the Final EIS include a detailed analysis of a helicopter-only access alternative that would meet the project's purpose and need to allow timber harvest and also preserve the roadless quality of the project area. We also recommend preparation of a watershed plan, in compliance with Appendix J of TLMP.

We appreciate the opportunity to comment on the Draft EIS for this proposed timber sale. Please contact FWS biologist Richard Enriquez (907-586-7021) if you have questions about these comments and when opportunities arise to participate in any future meetings or field reviews.

Sincerely,



for Pamela Bergman
Regional Environmental Officer - Alaska

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Response to Letter #9 - USFWS

U.S. Fish and Wildlife Service

USFWS-1

A roadless, helicopter-only alternative was considered during the analysis for the DEIS but eliminated from further evaluation (see Chapter 2). Such an alternative would not provide any opportunities for small sales that local timber operators would be able to compete for, which has been a comment made many times from many different people. The opportunity to purchase timber sales would be limited to those purchasers that could afford the initial outlay of financing to obtain the use of a helicopter, either through purchase or sub-contracting. Alternative 4 does use helicopter logging for the majority of the volume.

USFWS-2

During the analysis for the Woodpecker Project Area, alternatives that would change the wilderness character of the Crystal Inventoried Roadless Area (#224) were considered along with alternatives that would not affect the area. Implementation of any alternative that would change the wilderness character of the Crystal Inventoried Roadless Area would depend upon the applicability of the Court's injunction discussed below.

Only a portion of the Crystal Inventoried Roadless Area, 11,580 acres or 62 percent of the roadless area, is within the Woodpecker Project Area (see Chapter 3, Issue 4). As you state, the Forest Plan determined where timber harvest and road construction could occur in inventoried roadless areas through the allocation of land use designations (LUDs). Part of the Crystal Inventoried Roadless Area was allocated to LUDs that allow timber harvest and road construction. The impacts of road construction were analyzed in the context of the project area, both within and outside of the roadless area to determine the maximum effects. Alternatives 3 and 4 represent alternatives that have no road construction within the Inventoried Roadless Area. Therefore, we did not feel that a separate analysis of just the activities within the Crystal Inventoried Roadless Area was necessary.

The final Roadless Area Conservation Rule was signed on January 5, 2001. The Forest Service is reevaluating its Roadless Area Conservation Rule (Roadless Rule) and is currently enjoined from implementing all aspects of the Roadless Rule by the U.S. District Court, District of Idaho. The Woodpecker Draft EIS was issued prior to the deadline in the Roadless Rule, so this project could move forward regardless of the Roadless Rule status.

In *Sierra Club v. Lyons* (J00-0009 (CV)), the U.S. District Court, District of Alaska enjoined the Tongass National Forest from taking any action to change the wilderness character of any eligible roadless area until a supplemental environmental impact statement evaluating wilderness recommendations for roadless areas has been prepared. On May 23, 2001, the Judge temporarily lifted this injunction pending a hearing and further order from the Court. On June 7, 2001, the Chief of the Forest Service reserved the right to make all land management decisions involving timber management and road construction within Inventoried Roadless Areas.

USFWS-3

A separate analysis based on elevation was not done since the interagency deer model uses elevation as one parameter to assign deer winter habitat values to stands and uses 800 feet as a division for habitat values.

Response to Letter #9 - USFWS

There is no plan to preferentially cut high-volume old-growth forest in areas less than 800 feet in elevation. Units were determined primarily based upon using the existing road system for access and logical extensions of that road system. Much of the low elevation, high-value deer winter habitat has been incorporated in the 1,000-foot beach buffer and the small old-growth habitat reserves where no commercial timber harvest is allowed. See Table 3-2 in Chapter 3, which show the amount of high-value deer winter habitat within proposed harvest units. Please also refer to our response to comment ADFG-11.

USFWS-4

Your recommendation for the Interagency Collaborative Design for the small old-growth habitat reserves (Option 1) is noted.

USFWS-5

Your reference to VCUs 502 and 504 is confusing, since these VCUs are not in or near the Woodpecker Project Area.

When determining which stands to propose for timber harvest, the availability of deer winter habitat and deer forage was examined. Migration corridors were identified in consultation with Carol Hale of the USFWS and documented in Chapter 3 under the Biodiversity section. The proposed harvest treatments were designed to reduce opening sizes and maintain forest structure across the landscape and within the stand. Forest openings created by this project will provide forage for deer and other species for at least 20 years.

We agree that openings with 20-30 percent retention would likely have poor understory conditions when those stands are 50 to 80 years old. This is when canopy closure would occur similar to clearcut conditions. That is why we display the effects on deer carrying capacity when the stands begin to have canopy closure (in the year 2043) to include the closure of both existing second-growth stands and the openings created by this project. Also see our response to comment ADFG-9.

As discussed under Chapter 3, Issue 1, we did use the habitat suitability index values for clearcuts for units with 20-30 retention and for openings of two and three acres, which we understand is the conclusion from the 1998 article by Kirchhoff and Thomson.

USFWS-6

All proposed timber harvest units within high value marten habitat incorporate, and in most cases exceed, the Forest Plan standards and guidelines. The criteria are found in Appendix B, Introduction to the Unit Cards. Your preference to retain the trees in clumps is noted and will be used if these clumps do not interfere with logging safety.

USFWS-7

Goshawk surveys will occur prior to implementation of the units in the Selected Alternative. Goshawk surveys done for the last three years have not identified goshawk use in this area. If a new nest is located prior or during timber harvest, a buffer that meets the Forest Plan standards and guidelines will be designed. We do not normally put nest sites on public distribution maps for the reasons you stated.

USFWS-8

Response to Letter #9 - USFWS

A road analysis was completed for the project area as well as Mitkof Island. This analysis discusses long-term road management with stream protection as a priority consideration. The recommended road management plan for roads within the project area is included in Appendix B.

The Road Cards indicate some of the BMPs to be implemented; others would be included during design and as part of the specifications in any contracts resulting from the selected alternative. Stream crossing structures will be designed after the engineering surveys have been completed. Once designs are underway, an inter-agency design review of structures will take place. As mentioned in Chapter 3 in the "Effects on Fish Passage" section, all crossings on streams known to contain fish habitat will be designed to maintain passage. Steep terrain and high hazard soils were avoided during road location for all alternatives.

All streams will be protected by Forest Plan standards and guidelines and Best Management Practices. Applicable riparian and windfirm buffers will be implemented to minimize sediment concerns within each unit/stream.

Numbers for fish stocking and monitoring of fish stocks are done in cooperation with the Alaska Department of Fish and Game, which is responsible for maintaining this information. Impacts to streams within the project area are expected to be insignificant due to the implementation of the Forest Plan Riparian Standards and Guidelines.

The Road Cards contain information describing where mitigation for fish passage would be included for both the existing and proposed new permanent roads. Appropriate fish timing windows, which are in the road card narratives, will be enforced during the installation of any structure.

USFWS-9

Please refer to our response to comment ADGC-9.

USFWS-10

Please refer to our response to comment ADGC-7.

USFWS-11

All applicable permits will be obtained.

USFWS-12

Best Management Practices concerning wetland identification, evaluation, and protection (BMP 12.5) can be found in FSH 2509.22-96-1 (USDA Forest Service, Alaska Region, Soil and Water Conservation Handbook).

Roads may be built through wetlands if no other routes are practicable. The routes chosen were based on the best on-the-ground location. Because of the high percentage of wetlands in the project area, as is the case in all of Southeast Alaska, some wetlands could not be avoided. Road locations within the Woodpecker Project Area were designed to avoid wetland areas wherever practicable. However, because of circumstances that would affect other resources, safety, or engineering design constraints some road locations on wetlands were unavoidable. Hydrologic alterations that may affect wetland function as a result of road construction are expected to be

minimal. The wetland section in Chapter 3 describes measures to further reduce impacts of road construction on wetland hydrology and avoidance of sensitive wetlands within Watershed #1 and adjacent to the project area. Minimization of road construction activities and the selectivity of crossing certain types of wetlands are documented within Appendix B.

Timber harvest is allowed on forested wetlands that can maintain commercial forests (Forest Plan FEIS p. 3-320). Inclusions of non-commercial wetlands within units are generally avoided by the design of logging systems.

USFWS-13

Aerial transport of logs from harvest unit to transport barge is a viable option in some unique circumstances. It is not a viable option in this case. It would be cost prohibitive since many of the units are miles away from saltwater. This may also present a public safety concern or require the closure of public access roads since the transport would need to occur over roads generally used by the public.

USFWS-14

Although the threshold of 20 percent of the area in openings 30 years or younger is exceeded for Watershed #7 in Alternative 5, that is only one measure of when a watershed analysis is needed. This watershed does not have any high value fisheries or other aquatic species values. It does not have a high possibility of sedimentation since the existing managed stand is fully stocked with trees that are 22 years old. Watershed analysis is normally done on an area 5,000 to 20,000 acres; this watershed is only 290 acres. Therefore, no detailed watershed analysis report was determined to be necessary by the responsible official.

USFWS-15

Thank you for your comments. Please refer to our responses to comments USFWS-1 and USFWS-14 regarding your recommended additions to the FEIS.

Letter #10 - Forgey



"Judy Forgey"
<judyforg@mitkof.net
>

To: <csever@fs.fed.us>
cc:
Subject: Roadless Mitkof

10/13/00 01:06 PM

Forgey-1

Dear Cynthia,

I am in favor of Prop 2. I think that we should connect the Woodpecker Road to make a loop.

Thanks, Judy Forgey

Response to Letter #10 - Forgey

Judy Forgey

Forgey-1

Your support for the loop road connection is noted. The loop road is included in the Selected Alternative.

Letter #11 – Narrows Conservation Coalition

Narrows Conservation Coalition
P.O.Box 2130
Petersburg, Alaska 99833
October 13, 2000

Cynthia Sever, Team Leader
Attn: Woodpecker Project Area
USDA Forest Service,
P.O. Box 1328
Petersburg, Alaska 99833

SUBJECT: Woodpecker Project Area DEIS

Listed below are our comments regarding the U.S. Forest Service's proposed Woodpecker Timber Sale.

WINDTHROW:

The partial retention harvesting technique planned for this sale concerns us because the timber is located in an area known for high winds. The partial harvesting technique exposes the trees left standing in the harvest units to higher winds, leaving them more vulnerable to blowdown.

We feel the Forest Service is wrong to assume that the remaining trees will stay standing in this area which is consistently exposed to high winds throughout the fall, winter and spring. The occurrence of periodic catastrophic winds is documented in the area. In its' discussion of past timber harvest in the Woodpecker Project Area, on page 3-127 of the DEIS it states: "All of the harvest units were clear-cut and many sales involved the salvage of blowdown timber." At this time a salvage sale of blowdown timber is being prepared on Zarembo Island, which is just across the strait from Woodpecker, and exposed to the same high wind conditions. Clearly, the partial retention harvesting in this area poses a risk to the trees left standing in the harvest units.

Now that global warming is established fact, we must accept that the resulting atmospheric instability will produce much stronger winds in coming decades or even sooner. We feel the Forest Service should begin now to incorporate this fact into their administrative decisions, just as the U.S. Environmental Protection Agency has. Acknowledging the probability of higher winds in the future would necessitate more careful selection of partial harvest areas.

Furthermore, the partial retention harvesting technique is untried in this area, and should not be experimented with on such a large scale as would be in the preferred alternative. The planning team members have relatively little or no experience in planning partial retention sales in areas with the unique conditions found in the Woodpecker area. No data from long term studies has been collected from areas with these unique conditions to be used as guidance in determining the long-term effects of this harvesting technique. No wind monitoring was done in the area, so decisions made

NCC-1

Letter #11 – Narrows Conservation Coalition

regarding windthrow problems were apparently based solely on information from other places with different wind, soil, and vegetative conditions.

NCC-1

We support the incorporation of the partial retention harvesting technique here in the Tongass in general, and support its use wherever practical. However, the harvest units in the Woodpecker area are too vulnerable to high winds to try this technique on such a large scale as proposed by the preferred alternative, which calls for the harvest of approximately 12 million board feet.

The conducting of such a large-scale experiment at this location is also unwise because it puts at risk the deer habitat in our communities' most important subsistence hunting area, as discussed below.

DEER HABITAT:

NCC-2

The harvest units in the proposed sale lie right in the heart of our communities' subsistence hunting area. Harvest units 121, 122a, 122, and 128 all lie within the high value deer winter range identified on Map 3 in the "Preliminary Mitkof Landscape Design" document. At the time of that documents' publishing, just five years ago, it was proposed to manage the identified high value deer winter range for deer protection, as described under "Approach" on page 3-2. Apparently that proposal has been scrapped in favor of timber production. Given our communities' dependence on the area for subsistence deer hunting, and the amount of winter range that has already been logged off, we feel the Woodpecker area is the perfect place to incorporate the proposal described on page 3-2.

Since so much winter range has already been clear-cut, the remaining winter range is all the more important to the deer carrying capacity of the area. The harvesting of 12 million board feet of timber from the remaining winter range will in effect turn the high value winter range into low value winter range, and will lower the deer-carrying capacity considerably more than the computer modeling suggests.

NCC-3

In places where there is only partial opening up of the canopy where trees are removed, it will cause more snow to collect on the ground. The loss of neighboring trees will increase the wind exposure of the snow-laden branches on the trees left standing, causing snow to fall to the ground in clumps rather than stay on the boughs and melt when the temperature rises, as it would if protected by surrounding trees. The chunks of snow that fall from the boughs will land on top of what has already collected on the ground due to the partial opening above, and form a compacted layer. As the typical snow, thaw, rain, and freeze cycles progress through winter, a hard crust of compacted snow and ice would develop, making it difficult or impossible for deer to dig through with their hooves. For this reason, the ground protection provided by trees left standing even in the highest retention units, could be significantly less than that assumed by Forest Service officials, or the predictions of the computer modeling, and the adverse consequences much greater.

We also question whether the computer modeling places adequate consideration of the value of the present remaining winter range relative to how valuable it will be in the future, when the present clear-cuts no longer provide the nourishment for deer they now provide. Right now, the deer are able to fatten from forage in the clear-cuts, but when

Letter #11 – Narrows Conservation Coalition

the canopy closes over, deer will not find abundant forage, so will have less fat to get them through the winter. Therefore, in the future, they will be much more dependent on nourishment from the remaining winter range than they are now. Was this fact given its proper importance and factored into the computer modeling? We ask that a complete description of the modeling method used be included in the EIS.

The importance of deer having adequate fat is shown in the fact that it is the bucks that expend their fat reserve in the fall rutting season that are the most vulnerable in a harsh winter. It must be remembered that fat not only provides nourishment when food is scarce; it also provides essential insulation from the cold.

The combined loss of food from the present clear-cuts and loss of food in the partial retention units planned for the area due to the forage being encrusted under compacted snow could prove devastating. In one hard winter a healthy deer population could be decimated. Since so much winter range that once provided for a stable deer-carrying capacity has already been removed by clear-cutting, it is vitally important to protect the integrity of the remaining winter range so deer can have a reasonable chance to survive the harsh winters.

If the clear-cuts that exist now are thinned when the canopy closes over, it could mitigate this concern to some degree. However, given the poorer quality (knotty) timber that a thinned stand produces, and the cost of thinning, we see little incentive for the Forest Service to do the amount of thinning necessary, so planners should not count on any thinning at all to mitigate the adverse effects of timber harvesting.

We think the Forest Service underestimates the potential inaccuracy of its computer modeling projections, and greatly underestimates the importance of keeping the winter range as it stands. Maintaining adequate winter range should be given much higher priority.

The over-harvesting of deer winter range in the Woodpecker area clearly demonstrates the problem of applying the 200 year rotation cycle Forest-wide, instead of to specific areas. If the 200 year rotation cycle were applied to specific regions within the Tongass, it would serve its intended purpose of providing adequate habitat protection far better.

SUBSISTENCE HUNTING:

The area surrounding the proposed timber sale is the best deer hunting on Mitkof Island, and provides approximately 44 percent of the deer taken on the island. Even though a great deal of timber has been taken from there already, the large-scale clear-cuts are presently providing good browse, so the area still provides local subsistence hunters with a good opportunity to bag a deer during the 15 day season each year.

However, the demand for subsistence deer on Mitkof already far exceeds the supply, and this trend will only become more pronounced as time goes on. The clear-cuts will stop providing forage, the number of hunters will increase, and hunting pressure on that area will increase. These facts were obviously not given their proper importance when the large-scale Woodpecker Timber Sale alternatives were developed. Since the demand

Letter #11 – Narrows Conservation Coalition

NCC-4

for subsistence deer already far exceeds supply, while demand for timber does not, it is clear that the concept of "balanced" use has little true relevance in timber planning decisions. We wonder how far down the number of deer will be caused to dwindle by harvesting valuable winter range before Forest Service officials will have the conscience to manage the forests for the protection of animals instead of timber planning jobs.

The deer carrying capacity of Mitkof Island has already been drastically reduced due to the extensive clear-cutting in the recent past. The preferred alternative will further reduce critical habitat and reduce subsistence opportunities for the ever increasing numbers of hunters. Therefore we recommend the no action alternative, or alternative three, which puts our prime subsistence area at much less risk.

LOCAL ECONOMIC CONCERNS:

NCC-5

Since the amount of money the forest service receives each year through appropriations is dependent to a great extent upon how much timber is cut, the Forest Service has historically had a big economic interest in selling large volumes of timber, and no economic incentive to provide small sales for local operators. This perhaps as much as anything, has contributed to the situation Mitkof Island is in right now, where most of the best and accessible timber has already been cut and processed by companies far from our community.

The timber proposed to be sold in the Woodpecker Timber Sale is top quality timber that local small timber operators could harvest slowly, over many years, and process locally. This could bring real economic benefit to Petersburg. But the preferred alternative offers most of the timber in quantities too large for our small operators to handle, so larger companies will get most of it. This means that most of the timber would go to out-of-town operators, most of the lumber will be processed out-of-town, and most of the money it could have caused to circulate within our local economy will go out of town as well.

In recent years, small value-added timber companies have been a hope for Petersburg's ailing economy. If it is ever to be not just a dream but a reality, there must be a reliable source of good quality lumber. Since so much has already been cut on the island, local operators should be given the opportunity to use what is left. Every big sale that goes out of town sends money out of town that could have aided our economy. It also reduces the available lumber supply that local operators need.

NCC-6

The annual deer season here on Mitkof Island gives Petersburg's economy a substantial boost each fall as hunters buy hunting equipment, camping gear, food, automotive supplies and fuel. As long as there are adequate deer to support a productive hunting season, this boost to our economy will continue each year indefinitely. If the Forest Service sells more of what valuable winter range remains, the sales' economic benefits to the community will likely last only a few short years. Following those few years will be many many years of diminished subsistence hunting dollars.

NCC-7

From an economic standpoint, the preferred alternative is not the best for Petersburg. It in effect high-grades much timber to out-of-town companies, and reduces the supply of local lumber that could be cut and processed right here in Petersburg in the future.

Letter #11 – Narrows Conservation Coalition

NCC-7

Alternative three calls for smaller sales that could bring much more benefit to our town in the long run, so of all the action alternatives. it is the one we support.

ROADS:

NCC-8

On Page 3-31 of the DEIS it states that the planning team has proposed management objectives that keep motorized access near the current level. But on page 5 of the Summary it states: improved or new road turnouts would be developed along the Woodpecker Road to provide additional safe parking areas. A segment of road would be constructed to create a loop by connecting the Woodpecker Road with another existing road to provide a new recreation opportunity. The Woodpecker road, the Snake Ridge Road, and the access to the Snake Ridge Road would be improved for standard passenger vehicle use."

NCC-9

All these improvements increase motorized access, and therefore directly conflict with the proposed management objective of keeping access near the current level. It must be remembered that the Transportation Plan will create considerably more traffic in the area as well. So if motorized access is to be kept near present levels, something will need to be done degrade the roads in the area, not upgrade them.

It is accepted science now that roads and motorized access do have adverse effects on wildlife habitat. Some of these effects, like poaching, are obvious, some are more subtle, but many do negatively affect deer populations and therefore must be factored into the computer modeling as well.

Upgrading the road system in that area will also put additional burden on the State Patrol, and increase safety risks, as we recently witnessed in the tragic car accident on a remote logging road that resulted in the tragic death of one teenager and serious injury of another.

NCC-10

The current road system in the Woodpecker area is in very poor condition, with many violations of governmental stream crossing guidelines. Several roads have had to be closed because of road failures due to erosion and landslides. The Road Condition Survey identified 27 blocked culverts on road 6245. This is typical of the Forest-wide road problems cataloged by the Road Condition Survey.

Since salmon fishing is so much more important to the economy of Petersburg and other communities, why does the Forest Service continue to disregard their legal responsibility to maintain stream crossings, and continue with plans to build more roads? We feel that since the Forest Service cannot maintain the present road system, it should not be planning to build more. The money we taxpayers lose on timber sales should instead be used to correct the stream crossing problems and erosion-related problems on the roads that already exist. Building more roads will make it even less likely that the Forest Service will ever come into compliance with its own laws, and cause more damage to habitat.

For these reasons we agree with the proposed management goal of keeping motorized access near current levels. However we think all the mentioned road improvements will result in much more access, especially after the South Mitkof Terminal is built and the area sees more four-wheelers, hunters, campers, picnics, nighttime poachers and teenage parties. Therefore we think Alternative 3 better meets

Letter #11 – Narrows Conservation Coalition

NCC-10

the proposed management goals, since it does not include all the improvements mentioned on page 5 of the Summary.

RECREATION IMPROVEMENTS:

NCC-11

We feel the road turnouts proposed to be expanded for recreational use need to be expanded anyway for safety reasons. The harvesting of 12 million board feet of timber as proposed in the preferred alternative will generate a lot of log truck traffic, so additional pullouts and expansion of the present ones will be necessary anyway for the roads to comply with safety standards and guidelines. Therefore we request that these "recreation" improvements be redesignated as road improvements, and that no recreation funding be used to pay for them.

WATERSHED IMPROVEMENTS:

NCC-12

We request that the watershed improvements proposed for Alternatives 2, 4, and 5 be included in alternatives 1 and 3 as well. These improvements are necessary for compliance with standards and guidelines, so should be completed as soon as possible regardless of which alternative is finally chosen.

UNIT INFORMATION LACKING:

NCC-13

The DEIS does not clearly state how the amount of tree retention is to be determined. It also fails to show the percent of each species to be removed, and how the harvesting and retention will be spaced within each unit. The inadequate amount of detailed information regarding this most important aspect of the sale makes it impossible for the public and other reviewers to fully assess the proposed action. We request that much more detailed information be included in the EIS.

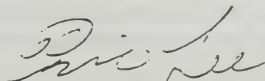
NARROWS CONSERVATION COALITION RECOMMENDATION:

NCC-14

All the reasons listed above make a strong case for Alternative 1, the no action alternative. However Alternative 3 disturbs habitat the least of all the action alternatives, and best addresses the issues identified in the public scoping process and summarized in the DEIS. For this reason, and the concerns described above, we therefore recommend Alternative 3 of all the action alternatives.

We appreciate this opportunity to participate in the decision-making process.

Sincerely,



Eric Lee for Narrows Conservation Coalition

Response to Letter #11 - NCC

Narrows Conservation Coalition, Eric Lee

NCC-1

We recognize that the south end of Mitkof Island, including many parts of the Woodpecker Project Area, is susceptible to high winds. Your concerns about the windfirmness of the remaining trees in the partial harvest units are noted. We have included more discussion on windfirmness in the FEIS in Chapter 3 and in the Unit Card narratives.

The areas most prone to blowdown are the south-facing slopes immediately adjacent to saltwater. This is the area that is referenced in your quote. No harvest is currently being considered on this slope; in fact, a large amount of this area is already in second-growth stands. Most of the remaining old-growth forest on these slopes is within the Woodpecker Cove Small Old-growth Habitat Reserve and the South Blind Slough Small Old-growth Habitat Reserve where timber harvest is not allowed.

The Selected Alternative does not include the units most susceptible to blowdown, such as Units 78, 80, 81, and 125. These units are located in Watershed #2, and have a southerly aspect.

Few studies on partial harvest in Southeast Alaska exist, since clearcutting has been traditionally used here. However, studies in similar conditions, such as the Pacific Northwest, British Columbia, and other areas around the world have been completed. This information plus observations on the effects of wind on the edges of clearcuts has made us more knowledgeable about how to position openings within a stand and which trees have a higher level of windfirmness. For example, the corridors proposed for units 121, 122, and 122a will be perpendicular to the wind direction to create a windfirm stand border (Harris, 1989).

Several studies are currently underway to study partial harvest and the amount of blowdown that occurs in Southeast Alaska, such as the Alternatives-to-Clearcutting Research Study currently taking place in Hanus Bay and Missionary Valley. A similar study is being planned for Prince-of-Wales Island. We will incorporate any preliminary results into the final layout and design of proposed partial harvest units.

In terms of global warming, because of the small land area involved, and the high degree of reforestation following logging, the Forest Plan determined that effects of land use practices in the temperate rain forest zone of Southeast Alaska are expected to have little effect on global atmospheric carbon.

NCC-2

In 1995, while the analysis for the Forest Plan revision was underway, the Mitkof Landscape Analysis Interdisciplinary Team proposed the "Deer Winter Range Land Use Designation" to the Forest Plan Revision Interdisciplinary Team. However, it was decided that the number of proposed land use designations presented to the public in the Supplemental Draft EIS for the Forest Plan in 1991 was adequate. Public comments had indicated that the number of LUDs was already complex and confusing.

The Final Mitkof Landscape Design (p. 2-60) recommended group selection harvest in areas of high value deer winter habitat that allow timber harvest, based on comments received during

analysis for the draft Mitkof Landscape Design. The Woodpecker Project Area Selected Alternative (Alternative 6) prescribes group selection for timber harvest units 121, 122, 122a.

Most of the proposed timber harvest in the Woodpecker Project Area is on low-value or medium-value deer winter habitat, with only a small percentage in high-value deer winter habitat (Units 121, 122, and 122a). The rest of the high-value deer winter habitat is not included in the Selected Alternative, which was developed in response to comments on the DEIS and analyzed in the FEIS. Much of the high-value deer winter habitat is protected by the Beach Fringe and Riparian Standards and Guidelines and the Old-growth Habitat land use designation. See the discussion of Issue 1, Deer Hunting in Chapter 3.

The Forest Plan Record of Decision incorporated the main blocks of high-value deer winter habitat within the Woodpecker Project Area into the three small old-growth habitat reserves for the VCUs in the project area. An adjustment was made for multiple-use management by dropping the western portion of the Woodpecker Cove Small Old-growth Habitat Reserve to allow for an existing road corridor. Part of this area was added to the reserve in Options 1 and 2 during this project's analysis.

NCC-3

Your scenario for deer having greater difficulty finding food in a partial harvest unit due to the influence of falling snow from adjacent trees does not take into account the areas that would not be harvested. In a partial harvest treatment that would remove two-acre patches from 25 percent of the stand, 75 percent of the stand would remain as undisturbed forest. Presumably, the deer would use these areas to find forage. Even in units that would retain 20-30 percent of the stand, there would be areas where snow cover would be less deep, providing forage and shelter from the wind, rain, and snow.

The computer model used for the Woodpecker Project Area deer carrying capacity analysis was developed with interagency consultation and used for part of the Forest Plan analysis. This model and the assumptions used were presented to the public in the Supplemental Draft EIS of the Forest Plan in 1991. It was designed to predict the effects of clearcutting only. The Final EIS for the Forest Plan also recognized that the model has limitations and discussed those in Chapter 3 of the Forest Plan Final EIS.

Although a model is currently being discussed for partial harvest considerations, it is not yet ready for use. Joe Doerr, interdisciplinary wildlife biologist, developed assumptions used to account for partial harvest to be conservative and reasonable. All proposed units with less than 50 percent retention were treated as clearcuts in determining the deer carrying capacity. Those acres of group selection that would be harvested were also treated as clearcuts. Please see our response to ADFG-9 for a further discussion of the deer habitat capability computer model.

Further discussion of our thinning program is found in our response to comment ADFG-10 and in the Vegetation and Timber Resources section of Chapter 3. For a discussion of the 200-year rotation, see our response to ADFG-1. A description of the measures taken to avoid or minimize cumulative effects to deer is located in the Issue 1, Deer Hunting section of Chapter 3.

Response to Letter #11 - NCC

NCC-4

Although about 44 percent of the Mitkof Island deer harvest comes from the Woodpecker Project Area, that number represents only about 7 percent of the total deer harvest by Petersburg residents.

All of the factors you mention concerning subsistence use within the Woodpecker Project Area were considered. Please refer to the Deer Hunting and Subsistence sections in Chapter 3. We agree that the demand for subsistence uses will increase as the human population increases and that this is part of the unavoidable stress on natural resources. We also want to point out, as discussed in the Deer Hunting section of Chapter 3, that the higher deer numbers of the past within the project area may have had more to do with predator control and a series of mild winters than with the amount of forage available, since the deer population crash occurred between 1968 and 1972, before the majority of timber harvest occurred in the project area.

We do not agree that the demand for timber does not exceed the supply. We often have multiple bidders for a timber sale, an indication that competition exists for timber products, as well as deer. Please refer to Appendix A of this FEIS and the Forest Plan FEIS, Part 2 for a more complete discussion of timber supply and demand in Southeast Alaska.

Your preference for the No-action Alternative or Alternative 3 is noted.

NCC-5

Congress appropriates money for National Forest budgets commensurate with the costs to provide goods and services to the public. Funding, whether for timber sales or trail maintenance, does depend on the desired output level (timber volume sold or miles maintained, respectively).

Although there is no economic incentive to supply small sales, there is Forest Service Handbook direction to offer a mix of small and large sales (FSH 2409.18). That is what the Selected Alternative is designed to do. There will be multiple small sales. The size of the sale that an operator can afford is a function of many factors. Operators from Mitkof Island have previously bid on, were awarded, and harvested timber sales larger than one million board feet. Some larger sales may need to be offered to offset the cost of road construction to access some of the units or for the mobilization costs of a helicopter. This road construction may benefit smaller operators by enabling access to other blocks of timber.

NCC-6

Your comment about the economic benefits to the community from the sale of equipment and supplies used for hunting is noted. We do not agree that these benefits would necessarily be diminished as a result of the decrease in the amount of deer habitat in the project area. The Woodpecker Project Area provides only 7 percent of the harvested deer for Petersburg hunters, and even less for other communities. Also, sportsmen who buy supplies from businesses in the city of Petersburg participate in hunting, fishing and other outdoor sports throughout Alaska. Therefore, the economy is not dependent on this project area exclusively.

NCC-7

The volume of an alternative does not relate directly to the size of a timber sale. Local operators will have the opportunity to bid on whatever size sale they can afford to purchase. The timber in

units that would require road construction or helicopter logging may go to larger operators, but may still offer employment to local small operators.

The Selected Alternative has many of the same opportunities for small sales as Alternative 3 with the exception of Units 128 and 129. These units were dropped from the Selected Alternative because of the amount of moderate and high deer winter habitat that they contained. Other opportunities may be created if some units are left along the new Roads 40821 and 40822. Examples of this would be Unit 90c.

NCC-8

We want to clarify that the proposed road management objectives are to maintain the current level of road density and miles of road, not to keep the roads in their current condition. We are changing the maintenance levels of several roads to better accommodate their existing use.

The Selected Alternative would place in storage approximately 10 miles of existing classified (permanent) roads within the project area. Each of these roads (6280, 6281, 6283, 6284, 6287, and 40083) currently receives some occasional use during deer and moose hunting season, generally by ATVs and other off-road vehicles. This offsets the 1.8 miles of new classified road to be left open. New roads to be left open include the 0.75-mile completion of the loop road between Roads 6282 and 6245 and the first mile of Road 40821. The existing Snake Ridge Road and the Woodpecker Road were proposed for improved surfaces, which would be easier and less costly to maintain. Please refer to the Road Cards in Appendix B for more information.

NCC-9

Road density is not included in the deer model. We will forward your suggestion about road density to those people involved in updating the deer habitat capability model.

The Alaska Department of Fish and Game determines the bag limit and the length of the hunting season primarily from hunter surveys. The number of deer that are illegally killed or killed on roads is not known at this time, but information has been collected as part of the deer studies occurring throughout the Tongass National Forest. Because of these unknown factors, ADFG tends to be conservative when setting hunting seasons and bag limits, and when making adjustments.

NCC-10

Please refer to our response to comment NCC-8. To correct the fish passage and erosion-related problems that you mention, some of the road systems would need to be upgraded. Your concern that this would increase access, however, is in conflict with your desire to see problems corrected. Your desires may be somewhat mutually exclusive.

National Forest System roads are designed to be driven at a certain speed to avoid accidents. The Woodpecker Road has a design speed of 20 mph and the other roads in the Woodpecker Project Area have a 10 mph design speed. Just as on any public road, driving a safe speed on National Forest System roads is the responsibility of the operator.

All analysis that involves road use includes public involvement. This helps determine which roads are most heavily used by the public. This is documented in Road Management Objectives which are included in the Mitkof Landscape Design, the Mitkof Road Analysis Process and this

Response to Letter #11 - NCC

document. This includes the desired maintenance level, which helps to prioritize the funds that we receive specifically for road maintenance. Some roads are maintained in part by timber purchasers when a timber sale is active. The Mitkof Island Road Analysis process determined that keeping the current amount of roads on the island is preferred. Therefore, although some new roads will be constructed for the Selected Alternative, ten miles of existing roads would be closed and put into a storage condition that would not require active maintenance. All new road construction will be designed to maintain fish passage as specified on the Road Cards in Appendix B.

NCC-11

The existing roads were built with the correct number of turnouts for safety. No additional turnouts are necessary for safety purposes. Drivers operating vehicles on single-lane forest roads should be prepared for oncoming traffic, and should expect that backing up to the nearest turnout might be necessary. To date, approximately 75 million board feet of timber have been safely hauled over the road system in the Woodpecker Project Area.

The turnouts that we are proposing are similar to the small parking areas constructed along the Threes Lakes Loop Road, where several people could park their vehicles and go hunting, hiking, or berry picking without blocking an existing safety turnout or parking along the roadside or in the ditch. The term “turnout” may be misleading; however, we wanted to avoid using the term “parking area,” which could be misinterpreted as a paved parking lot such as the Blind River Rapids parking lot. Please refer to comment Morgan-1 as an example of this type of misinterpretation.

NCC-12

Please refer to our response to comment ADGC-7 for an explanation of the status of the watershed improvement projects.

NCC-13

Most of the retention was expressed as a range, since it will vary by stand and the exact percent is not known until the cruise is done. This is also true for the percent of each species retained in the unit. The residual stand where uneven-aged management was applied will have about the same species composition as the current stand. Likewise, for units retaining 20-30 percent of the stand, whether the trees would be left in clumps or scattered will depend on the actual unit layout design and which trees can be feasibly and safely left.

We have included much of this information in the Introduction to Unit Cards rather than on the Unit Cards themselves. In response to numerous requests, we have added some of this information to the Unit Cards in this FEIS. However, please keep in mind that the information is based on field reconnaissance and Geographic Information System data and is an estimate. Please also refer to our response to comment ADFG-8.

NCC-14

Your preference for Alternative 3 is noted.

October 15, 2000

Ms. Cynthia Sever, Team Leader
Attn: Woodpecker DEIS
USDA Forest Service
P.O. Box 1328
Petersburg, AK 99833

Re: Comments on Woodpecker Project Area DEIS

SENT VIA FAX, EMAIL & MAIL (with enclosures)

Dear Ms. Sever:

The following comments are submitted on behalf of the Southeast Alaska Conservation Council (SEACC) on the Woodpecker Project Area Draft Environmental Impact Statement (DEIS). This project proposes cutting of between 6 and 27 MMBF of timber from approximately 500 to 1,850 acres, and construction up to 4.8 miles of new permanent road and 6.1 miles of temporary road. In addition, the action alternatives would destroy important roadless characteristics on up to 1910 acres in the Crystal Roadless Area due to timber cutting and road building.

SEACC is a coalition of eighteen volunteer conservation groups in fourteen communities across Southeast Alaska, from Yakutat to Ketchikan. SEACC's individual members include Alaska Natives, subsistence users, commercial and sport fishermen, hunters and guides, tourism and recreation business owners, small timber operators and high value-added wood product manufacturers, as well as concerned citizens from all walks of life. SEACC is dedicated to safeguarding the integrity of Southeast Alaska's unsurpassed natural environment while providing for balanced, sustainable use of our region's resources.

INTRODUCTION

SEACC-1
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In the Woodpecker Project DEIS the Forest Service attempted to provide the local community a sustainable supply of deer and recreational opportunities while providing timber for use in local value-added businesses. However, we continue to be concerned by the inadequate analysis in the DEIS and its conclusions regarding deer habitat and

SEACC-1

carrying capacity, impacts on roadless area values, opportunities for local businesses in the future, and failure to provide an adequate analysis of the true range of recreational opportunities or competing values located in the purpose and need. We prefer Alternative 3 of the action alternatives because it provides the highest capacity for future use of timber resources locally, has the lowest impact on roadless characteristics, and has the lowest impact on deer habitat. Thank you for accepting these comments and we look forward to an improved Final Environmental Impact Statement which fully considers the issues addressed below.

PREFERRED ALTERNATIVE DOES NOT ADEQUATELY PROTECT DEER HABITAT OR ADEQUATELY JUSTIFY THE DEER CAPACITY MODELING

SEACC-2

The Woodpecker DEIS does not include an adequate analysis of the impact on deer habitat and carrying capacity. The DEIS's analysis is based on inaccurate information on the impact of past timber cutting, relies on an deer capacity model that is untested and lacks peer review, and fails to justify the Forest Service's decision not to take steps to improve habitat on previously managed stands.

The Forest Service fails to attribute the reduction in deer available to residents to past habitat destruction. According to the DEIS, "during the 1960s a series of mild winters combined with wolf control resulted in a large deer population that exceeded carrying capacity of the land" (DEIS 3-8). The Forest Service attributes the 1972 population crash solely to severe winters. While this reasoning is technically correct, it discounts the Forest Service's own role in allowing the rapid destruction of deer winter range, the most important limiting factor for Sitka black-tailed deer in Southeast Alaska (DEIS 3-7). During the peak period approximately 630 deer per year were harvested by Petersburg residents on Mitkof. The average harvest taken from Mitkof between 1992-1999 was only 113 deer per year. Given this dramatic drop and continuing low levels of deer availability it is obvious more than severe winters and wolf predation are to blame.

The Woodpecker Project area remains very important to Petersburg residents for deer harvest. In fact, 44% of Mitkof Island deer harvest occurs within the project area. Rather than continuing to target timber cutting at important deer habitat the Forest Service should be working to provide opportunities for increased deer harvest. Unfortunately, the Forest Service continues to discount its past role and its current responsibility to provide for continuing subsistence opportunities to the residents of Petersburg. In the DEIS, the Forest Service seems to be arguing that because deer capacity has and will continue to

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decreased due to past clear cutting of prime deer habitat, it is fine to continue to cut areas and further degrade opportunities for deer hunting on Mitkof Island.

SEACC-3

The Forest Service's adjustments to the Forest Plan Deer Model are equally troubling. The multiagency deer model was developed for clearcut logging only. Unfortunately, the Forest Service decided to "modify" the model to account for partial cutting practices without peer review or adequate testing of the model-- a clear violation of the Forest Plan. Under the Forest Service's "modified" model, old growth units adjacent to clearcuts maintain the same deer habitat values as uncut units. Under these unjustified and untested modeling assumptions, winter forage would be completely unaffected by adjacent clearcuts. The failure to account for the edge effect of adjacent clearcutting discounts the obvious impact of blown snow and ice, and blowdown on winter habitat values (DEIS 3-9.) The Forest Service's decision to ignore the Forest Plan's directives to "develop interagency habitat capability models..." and "periodically review and update models to reflect the most current habitat relationships..." clearly violated the National Forest Management Act (NFMA).

In addition to violating the NFMA by failing to consult with the Alaska Department of Fish and Game regarding the modification of the deer habitat model, the Forest Service also failed to site any relevant literature regarding the impact of partial cutting on deer habitat. Specifically, Matthew Kirchhoff and Simon Thomson's study, "Effects of Selective Logging on Deer Habitat in Southeast Alaska: a Retrospective Study," should have been utilized (enclosed). This study found that "for maintaining important deer winter habitat, *very light* selective logging appears to have relatively little effect on long-term production of browse biomass..." (emphasis added). Given the preferred alternative's emphasis on retention of 50% or less of the stand in most high value deer winter habitat, we should expect a substantial impact on deer winter forage, rather than the Forest Service's estimate of maintaining winter habitat of "slightly lower quality" in these managed stands (see DEIS unit cards). The Woodpecker Project area is not the place for the Forest Service to unilaterally test its assumptions about the impact of partial cutting on deer survival-- the cost is too high.

SEACC-4

The Forest Service's continues to discount its responsibility for maintaining a healthy population of deer on Mitkof Island in its analysis of the need for thinning to improve deer habitat. The Forest Service concludes "future thinnings in roughly 10-20 years may be necessary to maintain understory forage and could prevent the expected 10 percent decline in deer habitat potential" (DEIS 3-10). This analysis relies on the unproven hypothesis that thinning improves deer winter habitat. Given the 12% previous reduction in deer capacity in the Woodpecker project area (Kirchoff, 1999), high reliance on the

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SEACC-4

project area for deer harvest by Petersburg residents, predicted continued decline in deer habitat as a result of past Forest Service projects in the area, and unwillingness and inability of the Forest Service to continue to "manage" previously clearcut units to improve deer habitat, it is irresponsible for the Forest Service to continue to allowing cutting of important deer winter habitat.

THE FOREST SERVICE SHOULD AWAIT THE CONCLUSION OF THE ROADLESS AREA RULE BEFORE DESTROYING VALUABLE ROADLESS AREA CHARACTERISTICS

SEACC-5

As you know, the President's decision relating to the protection of roadless areas across the National Forest system, including roadless areas in the Tongass is expected this fall. The Forest Service's has done a good job identifying the acreage impacts on the Crystal Roadless Area from the proposed project. However, the unit cards lack specific information to link roadless areas with important deer habitat or other recreational opportunities. Given this lack of unit specific information it is inappropriate for the Forest Service to continue planning logging activities and road building in these areas until a final decision has been made on the Roadless Area Conservation Rule. In fact, NEPA prohibits agencies from committing "resources prejudicing selection of an alternative before making a final decision." 40 C.F.R. § 1502.2(f). Thus, before a final decision is made whether to protect all roadless areas in the Tongass the Forest Service should not select an alternative that decreases roadless area characteristics. Doing so could prejudice the final decision on the roadless rule and EIS. See 40 C.F.R. § 1506.1(c)(3).

DEIS DOES NOT ADEQUATELY CONSIDER THE FULL RANGE OF RECREATION ALTERNATIVES OR FULLY ANALYZE THE COMPETING VALUES IN THE PURPOSE AND NEED

The designated purpose and need for the Woodpecker Project identifies the objective to "provide a range of recreation opportunities consistent with public demand, emphasizing locally important recreation places and those important to the tourism industry" (DEIS 1-5). The Forest Service has attempted provide for the recreation needs of local residents, however, we question the decision to exclude non-motorized recreational opportunities from any alternative and failure to consider the negative impact of continued timber cutting on recreational opportunities.

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SEACC-6

The Forest Service summarily discounts the importance of non-motorized recreation by decreasing the size of the semi-primitive acreage in the Woodpecker Project area in all action alternatives (DEIS 3-22). While we recognize the importance of roaded recreation in the project unit, the Forest Service has a responsibility to maintain a variety of recreational opportunities in the forest.

SEACC-7

The exclusion of non-roaded recreation is especially troubling when one considers the impact of timber cutting on the recreational opportunities in the project area. All of the action alternatives include timber cutting activities which have negative impacts on future hunting opportunities in the area-- an important recreational activity in the Woodpecker Project Area (DEIS 3-27).

Aside from the marginal improvement in available roadside parking, the activities proposed in the project would decrease the deer hunting experience. Additionally, logging operations, closure of roads during logging operations, and increased logging truck traffic would have negative rather than positive recreational impacts.

SEACC-8

The completion of a loop road in the project area is neither fully justified nor analyzed adequately. The DEIS states "many people expressed their desire for more loop road opportunities during the Mitkof Island Landscape Design Process (3-32). The public process sited was not a NEPA sanctioned process and therefore should not be used to justify the completion of the loop. Given the Forest Service's failure to adequately maintain roads it has already build, it is irresponsible to consider building new roads in the project area.

SEACC-9

The Forest Service failure to adequately consider the impact to competing values in the stated purpose and need reveals the continuing disregard for full range of multiple use of National Forest lands. Rather than propose "recreational" improvements which only serve to improve roaded recreation or repair roads for timber cutting, the Forest Service should fully account for the competing values of public lands and provide alternatives which fully consider their value to the community and forest health.

THE PREFERRED ALTERNATIVE WILL HAMPER FUTURE LOCAL PROCESSING BY EMPHASIZING LARGE, HIGHGRADED SALES

SEACC-10

The Forest Service has attempted to provide timber for local small timber business and value-added manufacturers. However, the preferred alternative would largely exclude these businesses from participating in the sales. Alternative 2, the agency's preferred,

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would authorize 12.3 MMBF of timber cutting, mostly in large sales. Additionally, without adequate information regarding stand structure on unit cards it is impossible to adequately address mitigate for past highgrading to maintain forest diversity.

SEACC-10

Given the historically heavy cutting which has occurred on Mitkof Island, the preferred alternative's high volume of timber will limit the future opportunities of local business. While the Forest Service justifies the reliance on large sales on a optimistic projection of impacts to local employment, historically most of the economic benefits from large sales in the area went outside the region, while the negative impact on local subsistence and recreation was borne solely on local residents. According to the DEIS, "the overall economics for the individual small sales are more favorable." (DEIS 3:55) The Forest Service should recognize that large sales on Mitkof will limit future cutting by local businesses.

SEACC-11

Additionally, the future of local manufacture is further hampered by the Forest Service's continued targeting on the highest volume stands (See enclosed Ghost Trees: Measuring the Vanished Forests of Southeast Alaska). The accurate analysis of the DEIS is hampered by the lack on information about stand structure in the unit cards. It is impossible to fully analyze the impact of partial cutting in areas without a clear picture of what stand structure exists today or how the Forest Service expects it to look after cutting. Given the timber industry's past targeting of the highest volume stands, it is unlikely any the partial cut units will maintain the any of the habitat characteristics provided by large trees.

THE DEIS FAILS TO ADEQUATELY DISCLOSE AND EVALUATE CUMULATIVE IMPACTS

SEACC-12

There are several past, present, and reasonably foreseeable projects in or near the proposed Woodpecker Project Area, including the Woronkofski Timber Sale and state lands development. Nowhere in the DEIS is there any detailed analysis of the specific cumulative effects of these management activities to forest resources in the Woodpecker area and the users of those resources. Without such an analysis, the DEIS violates NEPA.

Cumulative impacts on subsistence uses of the project area must be considered. The DEIS states that there little additional hard to subsistence opportunities of the preferred alternative given that past clearcutting will continue to decrease the deer carrying capacity of the island. However, it is irresponsible for the Forest Service to ignore the past habitat destruction in its analysis. Given the predicted impact of past harvest, the Forest Service

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should be working to improve habitat, not justify destruction of additional important habitat.

THE DEIS FAILS TO ADEQUATELY EXPLAIN THE METHODS FOR DETERMINING ACTUAL RETENTION IN PARTIAL HARVEST UNITS

SEACC-13

The Forest Service has attempted to utilize alternatives to clearcutting in the Woodpecker Project area. However, it is unclear how these designations will be administered on the ground. Has the Forest Service identified which trees to be cut in each unit in order to mitigate the concerns identified on the unit cards? Will the Forest Service maintain a variety of stand structures in these units? Without this vital information it is impossible to fully consider the impact to subsistence and recreational resources in the project area.

CLOSING

SEACC-14

The Forest Service has done a good job beginning to address the important multiple use values located in the project area. We are hopeful these comments are useful as you prepare the Final Environmental Impact Statement and address the real concerns regarding the maintenance of deer carrying capacity on Mitkof Island, future resource availability to local businesses, maintenance of important roadless characteristics and stand diversity, and range of recreational opportunities.

Thank you for accepting these comments and we look forward to an improved Final Environmental Impact Statement.

Sincerely,

Matthew Davidson
Grassroots Organizer

SEACC's comments on
Woodpecker DEIS
October 15, 2000

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Response to Letter #12 - SEACC

Southeast Alaska Conservation Council

SEACC-1

We disagree that our analysis for this project is inadequate, especially since it tiers to the analysis of the Forest Plan and complies with direction from the National Environmental Policy Act. Your specific concerns about our analysis and documentation of deer habitat, recreation, economics, and roadless area values for the Draft EIS are addressed in the following responses to your comments and the comments of others. We have included more information on certain subjects, as outlined in the section “Alternative Changes Between Draft and Final” in Chapter 2.

In response to your comment that there was “a failure to provide an adequate analysis of a true range of recreational opportunities,” please understand that the location of an area and the level of access provided will partially determine the type of recreational opportunities that are present in that area. Much of the Woodpecker Project Area has an existing road system that connects to the city of Petersburg. We have received many comments from people who use this road system and who want to continue to do so. However, we have also received comments in support of emphasizing a higher level of development closer to town than the Woodpecker Project Area. We took all of these comments into consideration when we developed proposals for recreation projects in this area. We did consider other developed recreation projects, but we did not include them in the final alternatives. (See Chapter 2 for a list of recreation projects that were considered but eliminated from detailed study.)

The Forest Plan recognizes that different areas of the forest will have different values, uses, and opportunities depending on the land use designation. Most of the Woodpecker Project Area was designated as Scenic Viewshed, Modified Landscape, and Timber Production. No development was proposed in the Old-growth Habitat LUD within the project area. Other areas on Mitkof Island were designated as Semi-remote Recreation, Special Interest Area, and Recreational River, to provide more isolated recreation opportunities. Please refer to our response to comment SEACC-6 for more discussion of the range of recreation opportunities in the Woodpecker Project Area and on Mitkof Island.

We note your preference for Alternative 3.

SEACC-2

Please refer to our response to comment ADFG-9. This response discusses the interagency deer habitat capability model and the assumptions that have been made. The deer model, which was used by the Forest Plan, addresses the impacts of past timber harvest.

We do not agree with your claim that the Forest Service has decided, “not to take steps to improve habitat on previously managed stands.” Each harvested stand is routinely managed throughout the length of its rotation. Please refer to the discussion of thinning and pruning in the Vegetation and Timber Resources section of Chapter 3, and to our response to comment ADFG-10, which describes the process of monitoring each managed stand and thinning at appropriate intervals, as determined by the growth of the stand. The objectives of thinning include maintaining understory vegetation (forage important to wildlife) as well as promoting tree growth.

Response to Letter #12 - SEACC

We disagree that our analysis discounts any role that timber harvest may have played in the deer population crash on Mitkof Island. The DEIS and FEIS disclose that deer habitat capability in the Woodpecker Project Area has declined about 12 percent since 1954, but recent pellet counts indicate that the deer population remains high in the area. The crash occurred not only on Mitkof Island, but also on Admiralty, Kuiu, Kupreanof, Prince of Wales, Wrangell, Zarembo, Etolin, and other adjacent islands. Many of these islands did not have large-scale timber harvest at the time. Deer populations recovered rapidly on most of these islands. When an animal population exceeds its habitat's carrying capacity, the added impact of several severe winters is likely to cause a population crash. The Forest Service and the Alaska Department of Fish and Game work cooperatively to sustain a healthy population of deer that does not exceed the carrying capacity of the land.

SEACC-3

We did not adjust or modify the interagency deer model. However, the interagency model assumes all harvest will be accomplished using the clearcut method and does not predict the effects of partial harvest. The timber harvest proposed for the Woodpecker Project Area uses a variety of partial harvest systems for which there are no interagency models. The National Environmental Policy Act (NEPA) directs us to disclose what we know and what we expect will happen because of our actions. We took the results of the interagency deer habitat capability model, the results of the Stand Visualization System (SVS) and the Forest Vegetation Simulator (FVS) programs, and used field inventory data and interdisciplinary professional knowledge and judgment to more accurately predict the effects of the partial harvest. Our use of the SVS and FVS programs to describe what would happen when timber is removed is well founded scientifically. In fact, the Kirchhoff and Thomson study to which you refer used the same SVS program to depict and predict what would happen following harvest.

There is currently not enough information in the literature to adequately predict edge effects. There is some evidence in Southeast Alaska that these effects will occur within 300 feet of a clearcut. We are proposing two-acre to three-acre openings with the surrounding habitat left intact. This would allow animals to avoid these openings.

We are not in violation of the Forest Plan direction or NFMA. The direction to implement and periodically review our models is not required at the project level. These reviews will occur at the Forest level and are now underway. As models are updated through consensus, we will use the updates accordingly at the project level.

We did not cite the Kirchhoff and Thomson study because it is not a peer-reviewed article. We did review the preliminary report, and responded to the principle author (February 8, 1999 letter from Carol Jorgensen to Matt Kirchhoff). This letter and Kirchhoff's response to our review are included in the project planning record. See our response to comment ADFG-9 for further discussion of this report. We disagree that the preferred alternative emphasizes retention of 50 percent or less of the stand in most high value deer winter habitat. Very few proposed harvest units are in high value deer winter habitat, and we are proposing 75 percent retention for most of those. We have looked at the proposed units containing high value deer winter habitat (Units 121, 122, 122a, 123, 125 and 128). Units 123, 125, and 128 are not included in Alternative 6 to address concerns for deer winter habitat. The remaining three units will have 25 percent of the stand removed in two-acre groups with the remaining 75 percent of the stand retaining the present high volume.

Response to Letter #12 - SEACC

SEACC-4

Please refer to our response to comment ADFG-10, which explains that thinning schedules and methods are determined by the growth of each individual stand, and discusses the rationale behind our statement that thinning can improve deer habitat capability in managed stands.

SEACC-5

The location of proposed harvest units relative to the Crystal Inventoried Roadless Area boundary can be determined from the Alternative maps in Chapter 2. We have also added this boundary to the Land Use Designation Map in the Introduction to Unit Cards in Appendix B. Information about whether a unit is within the Crystal Inventoried Roadless Area has been added to the Unit Card narratives. Information about high value deer winter habitat is also contained on the Unit Cards. Information about recreation opportunities within the Crystal Inventoried Roadless Area is found in Chapter 3, Issue 4.

Because of the location, adjacent management activities, and the proximity of existing designated Wilderness, the Crystal Inventoried Roadless Area was considered to have less wilderness potential than some of the other areas and was partly designated to development land use designations.

The Forest Service is reevaluating its Roadless Area Conservation Rule (Roadless Rule) and is currently enjoined from implementing all aspects of the Roadless Rule by the U.S. District Court, District of Idaho. The Woodpecker Project Area Draft EIS was issued prior to the deadline in the Roadless Rule, so this project could move forward regardless of the status of the Roadless Rule.

In *Sierra Club v. Lyons* (J00-0009 (CV)), the U.S. District Court, District of Alaska enjoined the Tongass National Forest from taking any action to change the wilderness character of any eligible roadless area until a supplemental environmental impact statement evaluating wilderness recommendations for roadless areas has been prepared. On May 23, 2001, the Judge temporarily lifted this injunction pending a hearing and further order from the Court. On June 7, 2001, the Chief of the Forest Service reserved the right to make all land management decisions involving timber management and road construction within Inventoried Roadless Areas.

SEACC-6

We disagree that non-motorized recreation opportunities have been excluded from the project area. All alternatives would maintain a variety of recreation opportunities from Roadless Modified to Semi-primitive Non-motorized. The action alternatives would decrease the existing non-motorized acres in the project area by less than 1 percent to 8 percent. The Selected Alternative would result in only 4 percent fewer non-motorized acres compared to the No-action Alternative. We have added a row showing the percent of existing semi-primitive acres that would change to roadless acres in the alternative comparison table in Chapter 2 of this Final EIS.

We are proposing projects that would enhance the recreation experience in the Woodpecker Project Area. Since the project area is far from town and current demand for recreation there is low, we are proposing relatively small, inexpensive projects close to the road system. This is where most of the recreation activity takes place in the area. One exception is hunting, which takes place in the backcountry. Several of the proposed projects could enhance hunting. The

Response to Letter #12 - SEACC

turnouts and even some of the proposed picnic/camp sites could be used as starting points for backcountry hunting trips. While specific projects are not proposed in the non-motorized areas at this time, this does not preclude projects from being proposed in those areas in the future, when recreation demand increases and funding allows. Other areas on Mitkof Island also provide enhanced backcountry opportunities, such as the Raven Trail, Raven's Roost Cabin, and the Three Lakes Loop Trail.

Although National Forests are managed for multiple uses, this does not mean that every acre should accommodate every use. Chapter 3, Issue 4 of the FEIS discusses the congressionally designated Wilderness Areas and other Inventoried Roadless Areas in proximity to the Woodpecker Project Area. Looking at the Tongass National Forest as a whole, much land remains and will continue to remain available for non-motorized recreation in perpetuity.

SEACC-7

The effects from logging operations would be short term and minor. The positive and negative effects of the alternatives on hunting are described in Chapter 3, Issue 1, and in the "Wildlife Effects and Evaluation" discussion in the Subsistence section of Chapter 3. Please also refer to our response to comment NCC-11, which discusses the intended purpose of the proposed turnouts.

SEACC-8

NEPA and the CEQ regulations implementing NEPA do not restrict scoping or public participation to the decision process. During scoping for the Woodpecker Project Area, all relevant public involvement, both past and present, was considered in developing alternatives. The public comment gathered during the Mitkof Landscape Analysis did not in any way diminish the level of public participation we sought and obtained during the Woodpecker analysis. A copy of the Woodpecker Project Area Public Involvement Report is available for review in the project planning record.

One of the purposes of conducting the Mitkof Island Landscape Analysis was to identify possible projects that would then be part of a site-specific analysis. The proposed loop road is such a project, and has been analyzed in this document in Chapter 3, in the Recreation and Transportation sections.

The level of public participation during the Mitkof Island analysis was much greater than what we typically receive during a project-level NEPA process. This gives us a stronger basis for building alternatives that reflect local public desires and values. During scoping for the Mitkof Landscape Analysis, many people expressed appreciation for the opportunity to discuss their desires for the future management of Mitkof Island. Many people feel that their comments should be heard without having to participate in every scoping process for every NEPA project. An island-wide analysis such as the Mitkof Landscape Design provides that opportunity. The comments that we have received since scoping began for the Woodpecker DEIS reaffirm what we heard during the Mitkof Island Analysis – there is a local public desire for more loop roads on Mitkof Island. The proposed connection of Roads 6282 and 6245 is in an area that would be easy to maintain, and would require less than one mile of new road. The Mitkof Island Road Analysis Process included this proposed loop road as part of the minimum road system needed for Mitkof Island.

Response to Letter #12 - SEACC

To balance the addition of new roads, we are proposing to place about ten miles of existing roads in the project area in long-term storage, which would minimize environmental effects and maintenance costs of the roads.

SEACC-9

The concept of multiple uses does not require every acre of land to accommodate all uses. The Forest Plan ensured that the full range of multiple uses would be accommodated on the Tongass National Forest through the allocation of multiple Land Use Designations (LUDs) across the forest. Figure 1-2 in Chapter 1 of this FEIS shows the number of acres of each LUD assigned to National Forest System Lands in the Woodpecker Project Area.

Alternative 1 will maintain all existing values and Alternative 3 will very nearly maintain these existing values. The other action alternatives provide a range of trade-offs for competing values. As stated in our response to comment SEACC-6, there will still be a variety of recreation opportunities available in the Woodpecker Project Area. The rationale behind the recreation projects proposed is also outlined in our response to comment SEACC-6.

SEACC-10

The number and size of timber sales will be finalized after the Record of Decision is signed. However, we have made the commitment that small sales will be offered and have included units in the Selected Alternative that would be possible to offer as small sales.

SEACC-11

The highest volume stands were not targeted. Table 3-27 in the Vegetation and Timber Resources section of Chapter 3 displays the volume strata classification of proposed harvest units by alternative. The proposed harvest units contain more acres of medium volume stands than high volume stands in all action alternatives, even though there are more acres of high volume stands than medium volume stands in the project area. Please also refer to our responses to comments ADFG-11 and Knight 2, which discuss the distribution of some high volume stands in the project area and the effects of past partial harvest on stand structure.

Your comment about the need for more information about stand structure on the unit cards is noted. We have added this information to the unit cards in the FEIS. Please refer to our response to comment ADFG-8, which discusses our rationale for not including volume estimates on the Unit Cards in the Draft EIS.

The "Ghost Trees" brochure that you mention contained several analytical flaws, which we described in a letter, dated November 30, 2000, from Forest Supervisor Tom Puchlerz to your organization. This letter is filed along with the "Ghost Trees" brochure in the project planning record.

SEACC-12

Chapter 1 discusses the extent of the cumulative effects analysis for the project area and relevant projects. The effects of activities on state land are addressed under the "Non-National Forest Lands" section in Chapter 3 and are discussed in the Central/Southern Southeast Area Plan distributed by the Alaska Department of Natural Resources (November 2000). Woronkofski Timber Sale is located on Woronkofski Island about 3 miles southeast of the Woodpecker Project Area, across saltwater. Therefore, the two projects would not directly affect each other.

Response to Letter #12 - SEACC

More information on the Woronkofski project can be obtained by contacting the Wrangell Ranger District. For a discussion of how the Tongass National Forest is expected to be affected by all proposed projects in the long term, refer to the Tongass National Forest Land and Resource Management Plan FEIS.

To the extent that they could be reasonably anticipated, cumulative effects to resources and uses of the project area were discussed throughout Chapter 3 of the DEIS and the FEIS. We have included a listing for cumulative effects in the index to make these sections easier to locate.

SEACC-13

The Introduction to Unit Cards in Appendix B describes the guidelines for determining which trees would be cut and which trees would remain standing for each type of harvest treatment. This was rewritten in the FEIS for clarity, and to incorporate the Marten Standards and Guidelines.

SEACC-14

Thank you. We have incorporated additional information in the FEIS, as indicated in our responses to comments. We continue to incorporate several analyses by reference, and to tier to the Forest Plan as directed by the Council on Environmental Quality regulations in order to reduce the bulk of the EIS.

Letter #13 - Knight

P.O. Box 1331
Petersburg, Ak. 99833
October 14, 2000

Cynthia Sever
Woodpecker Team Leader
USDA Forest Service
P.O. Box 1328
Petersburg, Ak. 99833

Received
OCT 20 2000
Tongass N.F.

Dear Ms. Sever:

Following are my individual comments on the proposed
Woodpecker Project Area DEIS:

Deer/Subsistence Use

My family depends directly on subsistence use of deer on Mitkof Island, particularly in the proposed Woodpecker Project area. Forty-four percent of the island-wide take of deer comes from here. Deer populations on Mitkof Island have decreased drastically since the introduction of intensive timber cutting and conversion of large old-growth blocks to second growth. Subsistence use of deer on Mitkof was given lip service by your agency during the boom timber years, while the public was lulled into complacency by assurances that no harm would be done to our valuable wildlife resources. But, following a few hard winters in the early 70's, Mitkof was closed to deer hunting for 17 years. During those years, the percentage of licensed deer hunters on Mitkof Island declined significantly (Sigman and Doerr, ADF&G Tech. Report, 1986). The closure of the season imposed a hardship on many local residents who did not have transportation to areas farther away. For those that did, many chose not to travel on open waters to more remote locations during the stormy fall months. Consequently, many quit hunting altogether.

Since the reopening of the Mitkof deer season, the demand for deer far exceeds the supply, as evidenced by the number of permits issued vs. the actual take. The interest displayed in local deer hunting since the reopening of the deer season on Mitkof in 1991 has shown the value and importance of local deer populations in satisfying the high demand for deer that has always existed locally.

Pre-clearcut deer habitat capability will not return on Mitkof Island, even in my grandchildren's lifetimes, due in large part, to the actions of your agency. Why should subsistence users be forced to accept a smaller and smaller piece of the venison pie because your agency has been busy

Knight-1

'balancing' the needs of the timber industry? While you can't correct the poor management practices of yesteryear, your agency could avoid further compounding those problems. Simply put, I believe it is incumbent upon the FS to avoid any further restrictions to subsistence use of deer on Mitkof Island.

As a member of Narrows Conservation Coalition (NCC), I am aware that the group, in their July 22, 1999 scoping comments for the proposed sale, you pay particular attention to the needs of local subsistence deer hunters. I am shocked to find several units located in what little remains of high value deer habitat, specifically, cutting unit #'s 90, 90f, 121, 122, 122a, and 123, 161, etc despite your claim that several units in high deer HSI were 'deferred'.

Knight-1

Figure 3-1 graphically discloses the location of the scant remaining high value deer winter range in the project area. However, as you know, while medium and low HSI deer winter range is of lower value, in areas where timber cutting has been excessive, for instance, in the Woodpecker Project area. The implication in your DEIS, is that only high value deer winter range is important and any other deer habitat loss is insignificant. Your FEIS should include a discussion regarding the value of all deer habitat in the project area, especially in light of the fact that thousands of acres have been converted to second growth. Please disclose on a map, the areas of high, medium and low HSI for deer in the project area. Please disclose the deer habitat capability of the project area prior to clearcutting in your next EIS. Also, since the deer model was developed for clearcutting only, I question the assumptions agency personnel made regarding the effects of partial harvest on deer habitat. Were your 'modifications' shared with the interagency group that helped developed the deer model? Do your assumptions account for understory effects of selective harvest? Based upon what scientific information do you know selectively cut stands will recover in 40 years? Was this scientific information developed for conditions present in Southeast Alaska? Please fully disclose this information in the main body of the next EIS, not in the Appendix.

The DEIS discloses the expected reduction in deer habitat capability based on assumptions made with no known peer review. Based on these assumptions...., even with no further cutting in the proposed project area, and due to past clearcutting, the long term reduction in deer habitat capability is expected to decline by 9.6% or 167 animals! For action alternatives, the long term reduction ranges from 182 to 221 deer (3-115). Alone, this reduction is shocking, especially given the high a demand for deer. Economics, not concern for subsistence, clearly played an important part in 'deferral' of cutting what little remains of high HSI for

Letter #13 - Knight

deer. Therefore, the claim that you have met the law by 'minimizing' restriction to subsistence use of deer is of little merit.

Knight-1

My family has, on numerous occasions, since the reopening of the deer season on Mitkof Island, used deer from the proposed project area for subsistence purposes (unit #'s 90,90f,121,122,122a,and 123,and 161). I therefore formally request that you 'defer' cutting in any high value deer habitat; i.e., the above named units we use regularly.

High Volume Stands

Knight-2

I request that you propose no further cutting of high volume stands. As you know, due to disproportionate cutting, these stands are extremely rare on Mitkof Island and the Tongass in general. High volume old-growth stands provide unique and unparalleled habitat for a variety of dependent species, not to mention beauty beyond description. They should be preserved now, and for future generations to enjoy.

Road Construction/Maintenance:

Knight-3

Given the 228 plus miles of road on Mitkof Island, there is no need for more for recreational driving - especially loops. I have seen no NEPA approved study that demonstrates a need for more road on Mitkof Island, and in particular for recreational uses in the project area. As we are all aware, roads on the Tongass are built to access timber and provide unsustainable, pork-barrel jobs, nothing more. If any further road construction is considered under the guise of providing for recreational purposes, then an in-depth discussion should be included in your future document, along with a NEPA approved study demonstrating the specific need for more. The same goes for turnouts on the system roads. Turnouts are included as a part of road design for safety purposes - not recreation.

Knight-4

Due to the poor condition of roads Tongass-wide and on Mitkof Island in general, it is quite apparent that no more roads should be constructed until a comprehensive, and fully-funded road repair program is underway. As a Southeast Alaska Drift Gillnet Permit holder, the value of anadromous streams are vitally important to my livelihood. Poorly maintained roads affect the quality of this anadromous habitat and should not be ignored. Please disclose in the future EIS a complete road condition survey of all roads in the project area, whether closed or open. Please disclose all fish passage concerns, slide or road failures, etc., and corrective measures taken to insure that State Water Quality Standards are met and fish passage issues are adequately addressed. Individuals should not have to refer to the

Knight-4

Mitkof Island Road Analysis (a separate document) for 'further information' on stream crossings. Also, Road 6245 noted that 'further data is needed to identify the extent and nature' of fish passage problems. I request that this further information be completed prior to a decision on the proposed Woodpecker Project. All specific relevant data should be included in the EIS on this topic. I am aware in particular of numerous problems on the Woodpecker road system including surface water runoff, blocked culverts and ditches, and major slides. Your road cards also included such descriptions with no suggested corrective measures. This needs to be adequately addressed in the EIS.

Roadless Area Conservation Plan

Knight-5

Timber cutting proposed in the various Woodpecker project action alternatives may affect the Crystal Inventoried Roadless Area from 140 to 1,910 acres. A decision on this project must be deferred until a final roadless decision by Dombeck.

Recreation

Knight-6

I remain unconvinced that camp/picnic sites on landings, in clearcuts, or adjacent to roads are really 'recreation improvements'. Such sites will be hard to distinguish from the current numerous party/booze/bullet casings/human waste eyesores that have proliferated along the Mitkof road system. Unless there is certain funding for maintenance of these sites (sanitary/trash collection, etc.) these projects should not be considered. It is notable that of the 7-8 proposed, so-called recreation improvements for the Woodpecker Project, none appeared in action Alternative 3. This particular action alternative is obviously the most desirable from the economic and habitat loss standpoints, since it results in the highest appraised value and least amount of habitat loss. Why was it left out?

Knight-7

The Purpose and Need of this proposed project is described as to 'provide a range of recreation opportunities consistent with public demand, emphasizing locally popular recreation places and those popular to the tourism industry.' Since Alternative 3 includes no provision for recreation improvements as the other alternatives do, then how can it meet the purpose and need of the project? Was this intentional omission designed to make the other, higher volume alternatives more desirable to the public?

Knight-8

I am further unconvinced that turnouts are a recreation improvement: rather, aren't they safety features designed to met minimum standards for use of this road as a major haul route for logging and public use, etc.? Furthermore, the

Letter #13 - Knight

Knight-8

implication that a currently closed road would be opened up to 'accommodate vehicle traffic' is contrary to the IDT intent to maintain existing road access at current levels (Wolf Tra~~k~~ Lake site).

Blowdown

Knight-9

Except for standard boilerplate claims lifted from most other Tongass-wide EIS's, to have 'carefully considered windthrow and designed units to minimize the potential for windthrow' (3-135). I find no specific details in the unit cards that blowdown was ever considered in the location and design of the proposed units. Despite an extensive history of windthrow in the area, several units are proposed in high windthrow susceptible areas. For instance, as noted in your document (3-134), wind-exposed, south-facing slopes are particularly susceptible to blowdown; i.e., proposed partial retention stands, unit #'s 121-129 along Sumner Strait (and elsewhere in the project area) are certainly high risk areas.

Knight-10

Why was there no acknowledgment in the DEIS of NCC's request to avoid logging in this high fishery value? Given it's potential for catastrophic blowdown, this area should have been avoided altogether.

Knight-11

Please include a map depicting all high risk windthrow area in the project area. Also, wind monitoring should be conducted and the results disclosed prior to a decision on this project. Monitoring should be conducted immediately, this fall. We have already had storm condition weather advisory's locally this fall.

Watershed Improvements

Knight-12

All watershed improvements should be included in every alternative. Once again, it is notable that the most desirable action alternative, as well as the no-action alternative is excluded from most/all watershed improvement projects. If water quality is at risk, as disclosed specifically for the separate watershed projects, then they should be undertaken - timber sale, or no timber sale. Further, how can you arbitrarily decide to ignore these needs, and especially for only certain alternatives?

Certainly, you could divert some of those KV funds for something other than habitat degradation.

Southeast Alaska Transportation Plan

Knight-13

The cumulative effects of the Southeast Alaska Transportation Plan should be considered in the next EIS. The Petersburg Transportation Impact study provides quantified and qualified information regarding specific impacts to the Island with direct impacts on the project

Knight-13

area. Several references are made to the Transportation Plan and federal lands/responsibilities directly applicable to the project area. Gross generalizations made in the DEIS that there would be minimal impact to subsistence, sport, etc. use of fish and game in the project area are without basis. Non-subsistence hunters/tourists will readily access the South end of Mitkof Island. The statement that Mitkof hunters can go elsewhere, like Prince of Wales Island, dismisses the importance of the Woodpecker area for local subsistence hunters. Several timber sales EIS on Prince of Wales Island have pointed to the fallacy that POW hunters can go elsewhere, i.e., Mitkof Island, when deer subsistence use is restricted. So, where will we all end up? In the middle of Sumner Strait?

Mitkof Island Analysis

Knight-14

Any reliance on the non-NEPA approved Mitkof Island Analysis as justification for this proposed project is inappropriate. The Mitkof Analysis was not a decision document and included no alternatives.

Preferred Alternative

Knight-15

The most preferable alternative is #1, however, the most preferable action alternative is #3 because it reduces deer habitat capability the least, provides the highest appraised value, builds no new permanent road, has the least impact on the fisheries and the Crystal Roadless Area. If this action alternative is selected, I request that it be modified to exclude any further cutting in the Sumner Creek watershed (or any alternative for that matter).

Thank you for the opportunity to comment. Since the comment deadline is Sunday, Oct. 15, I have made sure these comments are postmarked by that date.

Sincerely,

Becky Knight
Becky Knight

Response to Letter #13 - Knight

Becky Knight

Knight-1

There had been very little clearcutting in the Woodpecker Project Area prior to the deer population crash from the severe winters in the early 1970s. Although clearcutting on other parts of Mitkof Island may have been partially responsible for the crash in the deer population, this may not have been a factor in the project area. Preliminary information from recent studies has shown that the deer population in the project area tends to remain within the area through winter and summer. Your conclusion that current demand exceeds the available supply because the number of deer hunting permits issued exceeds the number of deer harvested may not be correct. Many factors besides the number of deer available for harvest influence hunter success.

Many acres of high-value deer winter habitat have been allocated to areas where timber harvest is not allowed, such as Old-growth Habitat land use designation, beach and riparian buffers, and steep slopes. Other areas have been deferred from timber harvest at this time. Please refer to Issue 1, Deer Hunting in Chapter 3 for more information.

We agree that all deer habitat is important to deer (Suring, et. al 1992). However, high-value winter habitat has been found to be the limiting factor in Southeast Alaska during severe winters such as the ones that happened in the early 1970s. This is crucial to the long-term sustainability of the deer population. We continue to show high-value deer habitat on the map for that reason. All of the areas with value as deer habitat are included in determining the deer habitat capability numbers. The deer habitat capability prior to large-scale timber harvest was used in Table 3-2 in the DEIS as the baseline from which to compare alternatives. This is Table 3-3 in the FEIS, to which we have added a row displaying the estimated 1954 deer habitat capability of the project area.

Please refer to our response to comment ADFG-9 for a discussion of the interagency deer habitat capability model. The assumptions used to obtain the deer carrying capacity numbers were discussed in the DEIS in Issue 1 of Chapter 3. This section has been rewritten in the FEIS to help clarify the assumptions that were made.

As you have noted, most of the long-term reduction in deer carrying capacity is from the canopy closure of the existing clearcuts. We avoided many areas of high-value deer winter habitat during alternative development and have avoided traditional clearcutting where all of the trees are removed so that we don't exacerbate this problem. The reduction from the closure of the existing young-growth stands may be reduced by thinning to maintain forage. The amount of thinning throughout the rotation may be dependent on the available funds and the use of small diameter wood as the stand grows.

Your assumption that economics played a role in determining which stands were proposed for timber harvest is correct, since the availability of the road system was considered. However, as discussed in both the Deer Hunting and Biodiversity sections of Chapter 3, much of the high value deer winter habitat occurs in areas where timber harvest is not allowed. Other areas of high value deer winter habitat were not included in any proposed action alternative for this project. The proposed units with high value deer winter habitat have a harvest treatment that leaves stand structure to reduce effects. The designated small old-growth habitat reserves, the

Response to Letter #13 - Knight

standards and guidelines such as retention of 1,000-foot beach fringe, and the partial harvest treatments are reasonable steps to minimize the adverse impacts to subsistence uses and resources as required by law.

Of the units mentioned in your comment, Units 90f and 123 are not included in the selected alternative. No reduction in habitat value would occur in those units. Units 121, 122, 122a, and 161a have a proposed harvest treatment that would leave 75 percent of the stand intact with two-acre created openings for a total of 26 harvested acres.

Knight-2

Your request for no further cutting of high volume stands is noted. Within the Woodpecker Project Area, many of the very high volume stands are within the Old-growth Habitat land use designation, which does not allow programmed commercial timber harvest. Other high volume stands are within Forest Plan land use designations where timber harvest is allowed. Please also refer to our response to comment ADFG-11 for more information on high volume stands in the project area.

Knight-3

You are correct that most of the National Forest System roads on the Tongass National Forest were built to access timber. However, long after completion of the timber harvest for which a road was built, people continue to enjoy using the road to access recreational and subsistence areas, or for driving pleasure. This is certainly true for residents and visitors of Petersburg and Mitkof Island. We are not completely sure what you consider a "NEPA approved study," but we also received many comments on roads during the NEPA scoping process for this project and others on the Tongass, and in the comments on the DEIS, which are included in this document. Some commentors supported roads, including loop road connections and parking turnouts for recreational use and access for subsistence resources. Others, like you, do not support road use for recreation. The Selected Alternative balances these concerns by including the loop road connection and the parking turnouts while placing ten miles of existing permanent roads in storage to minimize their maintenance costs and environmental effects.

The Mitkof Island Road Analysis included the proposed loop road as part of the minimum road system needed for management of the forest on Mitkof Island. In addition, Alternatives 1, 3, 4 and 5 were developed, in part, to compare the effects and tradeoffs of not having a loop road within the project area. Please also refer to our response to comment NCC-8 regarding the proposed road management objectives.

Knight-4

Road condition surveys (RCS) have been performed on almost all of the permanent roads on the Tongass National Forest. Within the Woodpecker Project Area, all of the permanent roads have been surveyed for deficiencies. The results of the RCS have previously been used to correct fish passage at one site on Road 6245, as well as identify ditching needs, and the need for installation of additional ditch relief culverts and waterbars to control storm flows. Further information such as size, type, and amounts of materials and equipment necessary to correct the deficiencies is determined at the time of implementation.

Currently a contract to survey, design and reconstruct 29 structures on Mitkof Island with identified fish passage problems is in progress. This will include four of the five identified sites

Response to Letter #13 - Knight

within the Woodpecker Project Area. Further analysis and interagency review identified the fifth site as having a lower priority than other sites on Mitkof Island since it involved only 30 square meters of upstream habitat.

The Mitkof Island Road Analysis and Road Condition Survey equals an Environmental Impact Statement in size. In order to comply with Council on Environmental Quality regulations to reduce excessive paperwork and write EISs in clear language (40 CFR 1500.4) and to incorporate by reference to eliminate bulk (40 CFR 1502.21), the referenced document is located in the Woodpecker Project Area planning record and is available for public review. The Road Management Objectives (RMOs) in Appendix B of this EIS are included as excerpts of the Mitkof Island Road Analysis. The RMOs contain a summary of the current and future desired condition of each road, as well as important issues such as fish barriers and recent road failures.

Knight-5

Please refer to our response to comment USFWS-2 for an explanation of the status of the Roadless Area Conservation Rule.

Knight-6

The dispersed recreation sites for camping and picnicking adjacent to roads and on landings throughout Mitkof Island currently display some of the signs of use that you describe. Some residents of Mitkof Island will use such sites and leave them clean; others will not, since there is a wide range of preferences regarding recreation activities. We acknowledge that trash at such sites can be a problem. By doing some minor work such as removing old slash piles or leveling an area to pitch a tent, these sites will be better suited for those who choose that form of recreation. Improving the sites and removing existing garbage could encourage people who use the sites to keep them clean because it will be apparent that others will be using the site in the future.

The current plan for litter control at these proposed recreation sites is to rely on the "Pack it in, Pack it out" method. We would not provide trash cans that need garbage collection on a regular basis. A "Pack it in, Pack it out" program relies on the individual responsibility of the forest user, and can be successful through public education using signs, newspaper notices, and school and public programs such as Impact Monster and Leave No Trace. Volunteer litter-pickup events have also been effective in controlling and discouraging littering at dispersed recreation sites.

Petersburg Ranger District recreation facility maintenance funds are now limited, so we concentrate our efforts where they are most needed. For example, regular garbage collection by the Forest Service is limited to Blind River Rapids, Blind Slough Picnic Area, Manmade Hole, and Ohmer Creek Campground. We agree that sanitary facilities and trash collection may be needed and may be added if future use warrants it and the budget will allow it. Sanitary facilities are added when public use of a site increases, as is currently being accomplished at Manmade Hole, north of the Woodpecker Project Area on the Mitkof Highway.

Knight-7

The recreation improvements were left out of Alternative 3 to create a broader range of alternatives. Alternative 3 is the alternative with the least environmental effects on the area.

Response to Letter #13 - Knight

It is responsive to that part of the Purpose and Need statement that addresses a range of recreation opportunities. It represents an alternative that has less roaded or developed recreation opportunities and more unroaded recreation opportunities compared to other alternatives. Alternatives 4 and 5 would affect more acres with human activities for a more modified and roaded environment. This concept of a range for recreation opportunities is similar to portraying a range of timber harvest volumes.

Knight-8

Please refer to our responses to comments Knight-3 and NCC-11 for discussions on turnouts. The road to Wolf Track Lake, Road 6286, is considered an open road even though it has been recently closed by a slide. Currently there is a contract in progress to repair this road and the road failure that occurred on Road 6245 during the fall of 1999. The short temporary roads to the camping sites will remain closed.

Knight-9

Please refer to our response to comment NCC-1, which discusses how windthrow was considered during this project analysis. We have included more discussion on windfirmness in Chapter 3, and on the unit card narratives.

Knight-10

You are correct that NCC's scoping comments included a request that we avoid logging in this watershed (Watershed 2) as well as Watershed 1. This comment was considered as an alternative during interdisciplinary team review of the scoping comments. Because of the high level of protection given to streams and watersheds under the Forest Plan standards and guidelines, this alternative was not considered in detail. See the section "Alternatives Eliminated from Further Consideration" in Chapter 2. The effects to Watersheds 1 and 2 were considered in the development of the action alternatives and a range of effects are displayed in the Fish Habitat and Watershed Quality section in Chapter 3. The Selected Alternative does not include units 123, 125, 128, 129 or the units in the headwaters (Units 78, 80, 81, 81a, 82, 85, and 85a). Units 121, 122, and 122a are included. See our response to comment NCC-1 or the Unit Cards in Appendix B for an explanation of how blowdown will be minimized.

Knight-11

A map that identifies the probability of windthrow, based on a graduate study by Marc Kramer, was used along with other information to identify areas with a high potential for blowdown within the Woodpecker Project Area. The work on this mapping technique is still in progress and has not been peer reviewed. This map is available for review. Mitigation measures for high-risk blowdown stands are found on the Unit Cards in Appendix B.

Knight-12

Please refer to our response to comment ADGC-7 for the status on the watershed improvement projects and a discussion of the concept of a range of alternatives. These projects are currently in progress and have been covered by a Categorical Exclusion. You are correct that KV funds could be used for these improvement projects, but that would mean delaying these projects until such funds become available through a timber sale contract. You are not correct that KV funds are used for "habitat degradation." The Knutson-Vandenberg Act is very clear that funds can only be used within a project area for reforestation or other resource projects that have been directly affected by timber sale activities as directed by Forest Service Handbook 2409.19,

Response to Letter #13 - Knight

Renewable Resources for Knutson-Vandenberg (K-V) Funds. This handbook is available for review at our offices or on the Forest Service Washington Office website (www.fs.fed.us).

Knight-13

The Petersburg Transportation Impact Study provided estimates of increased traffic and recreation use due to the implementation of the Southeast Alaska Transportation Plan. The study concluded that impacts from increased traffic on the island would be mainly restricted to areas along the Mitkof Highway. The study predicts that many travelers would not venture to the more remote places on the island, such as those found in the Woodpecker Project Area (Petersburg Transportation Impact Study, p. 178).

The discussion of subsistence hunters going elsewhere to hunt was included to indicate that the inter-island ferry system would facilitate hunter mobility by providing more choices for ferry travel. Ferry access to both Mitkof Island and Prince-of-Wales Island already exists for hunters, but currently may be more time-consuming and less convenient than in the future. If use of areas by non-subsistence hunters interferes with subsistence use, the hunting areas can be restricted to subsistence only for residents of a particular area.

If changes to the Subsistence Management Regulations are needed, any person or group may submit proposals to change or improve federal subsistence regulations, comment on proposals or testify at meetings. The ten Regional Advisory Councils meet at least twice a year. Proposals may be made to the Regional Advisory Council or directly to the Federal Subsistence Board. The process for this is outlined, along with timelines for the proposals, in the Subsistence Management Regulations, which are published yearly for fish, wildlife and other subsistence resources. These are available from federal agency offices around the state of Alaska.

Knight-14

You are correct that the Mitkof Island Analysis was not a NEPA decision document nor was it intended to be. However, very valuable public comment concerning the future management of Mitkof Island was received during this analysis. An initial part of scoping for any project is to review comments already received for an area. Many people feel that a public comment they made in 1995 should still be considered valid years later. The Mitkof Landscape Analysis generated a lot of feedback from a wide variety of Petersburg residents. Attendance at the public meetings for the Mitkof Landscape Analysis was much higher than usual. We also received more written comments during that time compared to the scoping done during the Woodpecker Project Area analysis.

Knight-15

Your preference for Alternative 1 is noted. Your second choice of Alternative 3 as modified to exclude units in the Sumner Creek watershed (Watershed 2), which would be Units 128 and 129, is also noted.

Letter #14 - Berg



"David Berg"
<davidb@vikingtrvl.ne
t>

To: <csever@fs.fed.us>
cc: "Tom Berg (E-mail)" <tmb1colpan@aol.com>
Subject: Mitkof Island timber harvest support

10/16/00 09:39 AM

Ladies and Gentlemen

Berg-1

I just wanted to take the time to let you know we are in support of continued road building and timber harvest on Mitkof Island near Petersburg.

I've recently heard about a potential site on or around the south end of the Island. I think that this road building will open up more recreation area and increase access to deer hunting sites, too.

In addition, the harvest of timber from the area will bring more economic growth to the Petersburg area, besides making way for healthier trees that grow after the existing timber is cut.

Sincerely,

Viking Travel, Inc.
Dave Berg, President.

David Berg
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907 772 3818
907-772-3940-Fax

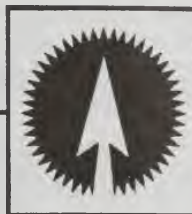
Response to Letter #14 - Berg

David Berg

Berg-1

Your support for timber harvest and road building on Mitkof Island is noted. The Selected Alternative includes the proposed loop road and slightly more timber harvest than the DEIS Proposed Action.

Alaska Forest Association, Inc.



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October 16, 2000

Petersburg Ranger District
Attn. Cynthia Sever, Team Leader
USDA Forest Service
P.O. Box 1328
Petersburg, AK 99833

Received

OCT 19 2000

Tongass N.F.

RE: Woodpecker Project Area Draft Environmental Impact Statement

Dear Ms. Sever:

The Alaska Forest Association (AFA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Woodpecker Project Area, Petersburg Ranger District, Tongass National Forest. This letter is AFA's response to that document. The AFA represents approximately 90 regular and 160 associate member companies doing business in the forest products industry throughout Alaska. Nearly all of AFA's regular members are Small Business firms as defined by the Small Business Administration, and qualify for independent and small business set-aside timber sales. AFA, its members, their employees and the timber dependent communities of Southeast Alaska depend on the Forest Service to provide economic timber sales of sufficient volume to meet the needs of the Southeast Alaska timber industry.

The AFA supports the proposal to harvest timber from the Woodpecker Project Area. The AFA believes the Forest Service should offer the maximum allowable timber from areas of the Tongass that are designated Timber Production, Scenic Viewshed and Modified Landscape by the recently revised Tongass Land Management Plan (TLMP) so that manufacturing facilities in Southeast Alaska have an opportunity to purchase sufficient timber to meet their needs. Furthermore, the larger the volume a project in the Woodpecker area offers, the more flexibility the agency will have in offering a range of sales sizes to accommodate both large and medium size purchasers.

As the Forest Service is well aware, the remaining available Commercial Forest Land, after implementation of the recently revised TLMP, must be carefully and intensively managed for timber production if the Forest Service is to be able to provide a supply of timber even approaching the Allowable Sale Quantity in the revised Plan over the long term.

Purpose and Need

AFA-1



The purpose and need statement for the Woodpecker Project Area clearly includes the following goals:¹

- "managing the timber resource for production of sawtimber and other wood products from

¹ See Chapter 1, page 5.

Letter #15 – Alaska Forest Association

suitable lands on an even-flow, long-term sustained yield basis and in an economically efficient manner;" and

- "seeking to provide a supply of timber sufficient to meet the annual market demand and the demand for the planning cycle."

AFA-1

However, AFA believes the purpose and need statement for the Woodpecker Project Area should reflect the following points which were suggested in AFA's October 1999 scoping comments on this project.

- to move timber stands to a managed condition resulting in healthier, faster growing stands;
- to increase growth and yield from the managed stands; and
- camping, deer hunting and other recreation opportunities in the vicinity of the Woodpecker Project Area are compatible with timber harvests and fit within the range of activities provided for under the multiple-use mandates of the Forest Service mission, the National Forest Management Act and the Multiple Use and Sustained Yield Act.

Reasons for Scheduling (Appendix A)

AFA-2

The rationale in Appendix A for scheduling the Woodpecker Project Area at this time is adequately set forth. However, the AFA continues to object to the uncritical acceptance of conclusions reached by the agency based on *Timber Products Output and Timber Harvest in Alaska: Projections for FY97-10*, authored by David Brooks and Richard Haynes (hereafter, "Brooks and Haynes"). The AFA realizes that the Brooks and Haynes report is a Forest Plan issue and not a project EIS issue, but the agency's persistent reliance on this report, which understates demand for Tongass-type timber, continues to have a negative effect on the agency's ability to offer sufficient volume to sustain the Southeast Alaska timber industry. At a minimum, the agency should examine *The Global Market for Timber from the Tongass National Forest*, prepared by the McDowell Group for the Ketchikan Gateway Borough and released in April, 2000. New market demand information provided in this report should be considered by the Forest Service in designing and scheduling timber sales intended to build a pipeline of available timber that will meet the expectations of TTRA §101.

Brooks and Haynes gave three Year 2000 demand scenarios varying from a low of 95.5 mmbf to a high of 142.7 mmbf. All these scenarios are well below 355.5 mmbf, the current normal operating capacity of sawmills served by the Tongass National Forest. More significantly, they are also below *actual* demand for that year as shown by final harvest figures which are now available. According to Forest Service numbers (which are confirmed by AFA data), the industry harvested nearly 147 mmbf in FY 2000. During the same period, the industry purchased approximately 120 mmbf, but the Forest Service offered only 80 mmbf of new volume. This indicates a net loss in Pipeline Pool 3 and a drain on Pipeline Pool 2, the latter of which must be offset by an increase in volume moving from Pool 1 to Pool 2. Unfortunately, according to Appendix A, page 18, Pool 1 only contains <164 mmbf, "inclusive of this project." This illustrates the manner in which "a sales program that is constrained by the Brooks and Haynes estimates will frustrate the efforts of Southeast Alaska's forest products manufacturers to respond to changing market opportunities" as AFA stated in its October 1999 scoping comments on the Woodpecker project. For this reason, the Petersburg Ranger District should strive to maximize the volume made available by the Woodpecker project.

Letter #15 – Alaska Forest Association

Deficiencies in the DEIS

- AFA-3 | The AFA's ability to provide meaningful comments on the Woodpecker project is hindered by the lack of adequate information in the DEIS. These deficiencies include:
- AFA-3a | • *Lack of turn distance information for the proposed helicopter units.* It is difficult to ascertain whether or not a helicopter prescription for a given unit is economic without knowing the turn distances. The AFA requested and received turn distance information from the planning team, but believes this information should be included in the NEPA documentation to facilitate substantive comments by reviewers. Furthermore, the deciding officer cannot make a rational decision regarding the use of a helicopter prescription without this information.
- AFA-3b | • *Lack of adequate information in the Unit Cards.* The information provided on the Unit Cards in the Woodpecker DEIS is entirely too sketchy to be of use to the reviewer. Simply setting forth the yarding system and retention standards without providing information on the stand (e.g., forest type, volume class, estimated volume, presence of wetlands) does not allow a reviewer to come to any conclusions as to the economic value versus costs of a given unit. The problem is particularly acute on units that are deemed to contain "high value marten habitat." The exact mitigation measures should be spelled out with respect to each of these units. A more useful model of unit cards is found in the DEIS for the *Sea Level Timber Sale*, published by the KRD in June, 1998. On the other hand, the scale of unit maps in the Woodpecker DEIS is superior to that in Sea Level.

Proposed Action

- AFA-4 | The Woodpecker DEIS shows Alternative 2 as the project's Proposed Action and Preferred Alternative.² Alternative 2 would harvest less than half the volume the project area is capable of yielding in this entry. Alternative 5, on the other hand, more nearly approaches the goal of supplying the timber industry's needs while meeting the other objectives of the Forest Plan and the project area.
- AFA-5 | The AFA supports a modified Alternative 5 which will fully utilize timber resources available in the project area to help the Forest Service meet its goal of offering 140 to 153 mmbf each year. Alternative 5 appears to allow economically viable timber volume of more than double the amount that would be made available by the proposed action (Alternative 2) with virtually the same appraised value and lower road costs per mbf.³ The Forest Service should consider reconfiguring Alternative 5 as suggested below to achieve some of the goals of Alternative 2 while providing the additional, cost-effective volume available from Alternative 5.

Economics

- AFA-6 | A high priority should be put on the economic test procedure being developed by the Forest Service. This new economic test system which utilizes the Transaction Evidence Appraisal database will provide a tool with which the Forest Service can develop economic sales. In addition, the timber

² It is so identified at Chapter 2, page 10.

³ Financial Efficiency Assessment, Table 3-7, Chapter 3, page 54.

Letter #15 – Alaska Forest Association

AFA-6 | sale preparation procedure should include flexibility to make changes. The ability to change utilization standards just before advertising a sale will afford the agency a good opportunity to offer a marketable sale that might otherwise receive no bids.

The selected alternative for the Woodpecker Project Area should more fully address comments on economics provided by AFA during scoping . These include:

AFA-7 | *Maximize volume per mile of road (optimum would be 3 mmbf/mile).* Alternative 5 is responsive to this criterion.

AFA-8 | *Maximize the use of temporary roads (with due consideration for near-term second entry).* Both Alternatives 2 and 5 are responsive to this comment, but Alternative 5 makes better use of temporary roads to achieve an economic timber sale project. (See further comments below.)

AFA-9 | *Limit the use of expensive logging systems to those situations where the volume and value of the unit's timber can accommodate the cost.* Alternative 2 appears to be responsive to this comment by refraining from the use of helicopter units. However, Alternative 5 is also somewhat responsive in that several of the proposed helicopter units do appear to be economic to harvest using heli-logging. With some modifications, Alternative 5 can be made fully responsive to this comment (see further comments below).

AFA-10 | *Minimize costly constraints on Log Transfer Facilities.* Alternative 5 is responsive to this comment because it proposes to use an existing LTF at Woodpecker Cove.

AFA-11 | *Utilize a clearcut prescription to the maximum extent allowable under the guidelines of the Forest Plan.* Alternative 5 is partially responsive to this comment. As the DEIS states,⁴ an alternative in which all units are clearcut is not possible in this project area under the Forest Plan because of the prevalence of Scenic Viewshed and Modified Landscape designations and the "high value marten habitat" issue. However, clearcuts with reserves can be used while still meeting the marten standard and guideline and it does not appear that the DEIS fully contemplated this approach. The Forest Service should reconsider use of a clearcut prescription (including clearcuts with reserves) to the maximum extent allowable under the guidelines in TLMP. Partial cut prescriptions must be used sparingly until the silviculture implications are known.

Old Growth Reserves

AFA-12 | In Chapter 2, beginning on page 38, the EIS discusses proposed changes to the Old Growth Reserves (OGRs) in VCU 448 and VCU 452. The AFA appreciates the responsiveness of the agency to previous public comments requesting that it consider OGR adjustments that do not exceed the minimum requirements set forth in TLMP.⁵

⁴ Chapter 2, page 36.

⁵ Chapter 2, page 40.

AFA-12

While the AFA maintains its objection to the use of a reserve strategy as part of the Forest Plan, we acknowledge that Option 2, as set forth in the Woodpecker DEIS, comes close to developing a balance between full implementation of the strategy and protection of forest commodity production in lands open to timber harvest. Clearly, the PRD could have moved the Wrangell Narrows Small OGR to Woewodski Island and greatly increased the available timber within the project area. However, presuming the application of the OGR strategy, AFA concedes the need to maintain the Wrangell Narrows Small OGR in place on Mitkof Island to capture the high value winter range along the Narrows. Extending the OGR to the north as proposed makes sense in this context and ensures that the Appendix K criteria are met and only minimally exceeded (at least in terms of tentatively suitable acreage). In VCU 448, therefore, we see no difference between Options 1 and 2.

In VCU 452, however, the AFA strongly urges the agency to adopt Option 2. While technically Option 2 does not satisfy AFA's criterion of the minimum POG called for in the Forest Plan, we recognize that, as a practical matter, the numbers may not always line up with geography. The AFA is satisfied that the productive acres added to the Woodpecker Cove OGR by Option 2 will have a minimal impact on the agency's ability to offer the full ASQ over the life of the Plan. The trade-off which makes the former South Blind Slough OGR available for future entry and allows timber in this area to be included in allowable cut calculations makes this option acceptable. Under Option 2, the additional acreage in the Woodpecker Cove OGR renders the South Blind Slough OGR unnecessary under the Forest Plan. Therefore, the Deciding Officer should choose Option 2 and incorporate it into the Selected Alternative for the Woodpecker project.

Crystal Inventoried Roadless Area

AFA-13

The Forest Service should implement the Land Use Designations (LUDs) set forth in TLMP until the Plan is amended legally, through the NFMA/NEPA process as set forth in the CEQ regulations. Consideration of LUD changes for the Crystal Inventoried Roadless Area (IRA) is inappropriate. Any modification to the LUDs within the Crystal IRA would unnecessarily diminish the timberland base necessary to meet timber demand. AFA filed extensive comments with the agency regarding the proposed Roadless Area Conservation DEIS, setting forth the reasons the policy should not be applied in the Tongass. Copies of these comments are available if needed.

Proposed Modifications to Alternative 5

AFA-14

The AFA proposes the following modifications to Alternative 5 and urges the Deciding Officer to adopt a modified Alternative 5 as the Selected Alternative in the Woodpecker FEIS.

AFA-14a

- *Consider dropping Units 81, 81a and 82.* The high retention required by the presence of "high value marten habitat," VQOs, and the blue heron rookery (in unit 82) makes it likely that the project would benefit from the elimination of these units. The lack of information in the Unit Cards makes this evaluation difficult, but the AFA suggests that the agency examine this issue carefully.

AFA-14b

- *Add the road loop completion component from Alternative 2 to Alternative 5.* This would provide the recreation opportunities desired by the residents of Petersburg while meeting the timber harvest objectives. In addition, on-the-ground reconnaissance indicates that Units 121, 122, and 122a are units that would contribute volume and positive value to the project, perhaps sufficiently to offset road costs.

AFA-14c

- *Increase the number of units or partial units that use a clearcut with reserves harvest*

Letter #15 – Alaska Forest Association

AFA-14c

AFA-14d

AFA-14e

prescription. Since many of the units are in Scenic Viewshed LUDs, it will be difficult to do this across the board, but the PRD should identify all units that could be converted to clearcut or partly converted to clearcuts and use this method to increase the volume and improve the economics.

- *Consider dropping Units 85 and 87, and adding Units 129 and 128 from Alternative 2.* This would eliminate two marginal helicopter units with high retention levels and replace them with cable units with significant volume. Even with 75% retention in these units, the volume and conventional logging systems will likely improve the overall project economics versus the present configuration of Alternative 5.

- *Maintain temporary road designations as set forth in Alternative 5.* The PRD should consider all spec roads (e.g., 40822) to see if any can be made temporary to improve sale economics. Access roads added to Alternative 5 to access Units 129 and 128 should be temporary as set forth in Alternative 2.

AFA appreciates the opportunity to participate in the planning of the Woodpecker Project. Should you have any questions concerning any of these comments, please contact me at (907) 225-6114.

Sincerely,



Jack E. Phelps
Executive Director

Alaska Forest Association, Jack Phelps

AFA-1

The Purpose and Need for the Woodpecker Project Area EIS was tiered to the Forest Plan and used language similar to the Forest Plan. Essentially our Purpose and Need says the same thing that you suggest, but in different words. For example, "manage the timber resource for production of sawtimber, ..." is essentially the same as "to move timber stands to a managed condition" and "to increase growth and yield from managed stands." In addition, the application of Forest Plan goals and objectives for recreation, tourism, wildlife habitat, transportation, and timber to the Woodpecker Project Area acknowledges the compatibility of these uses and is consistent with the multiple use principles of the Forest Service Mission. A change in the Purpose and Need at this point would involve an addendum to the Notice of Intent and a supplement to the Draft EIS.

AFA-2

Your objections to the Brooks and Haynes report are noted. As you state, the market demand for timber from the Tongass National Forest is beyond the scope of this project-level analysis. Your request to maximize timber harvest in the Woodpecker Project Area is noted.

AFA-3

The planning team made an effort to produce a comprehensible DEIS by presenting the results of the analysis and our conclusions in a clear and succinct manner. Technical data used in the analysis is included in the planning record. This is true for all resources, such as the deer model data, road condition survey data, and timber appraisal data. In the case of the timber appraisal, each alternative is treated as one sale, which would probably not be the case in the Woodpecker Project Area. These numbers are best used to compare alternatives rather than as an indication of the monetary value of the timber. A statistically accurate cruise will be done when preparing each sale.

Current plans are to offer a variety of sales from this project area. The mix of units, including yarding systems, will be determined at the time of implementation and will be based on current market conditions. An effort will be made to make each sale as economically feasible as possible, which would include consideration of any road construction costs or higher costs associated with helicopter yarding. Since these sales may be offered over a period of years and varying market conditions, it is impossible to accurately predict future market conditions.

AFA-3a

We have included a table of average yarding distances in the helicopter yarding section of Issue 3 in Chapter 3. Approximate turn distances can be also be determined from the alternative maps or Unit Cards. Almost all of the units in all of the alternatives fell into the NIC I category, which was determined by the Forest Plan to be normal operability. More information is also included in the project planning record. Turn distance is only one of many factors that influence the overall economics of operations.

AFA-3b

In response to your comment, we have included acres by volume strata on the Unit Cards, using information derived from the Geographic Information System (GIS). We have also included the

Response to Letter #15 - AFA

estimated harvest volume, which was derived from a combination of field reconnaissance and GIS information. These estimates are not as accurate as a timber cruise and should not be used to determine the final volume of the unit.

The presence of wetlands is noted as a resource concern on several units. However, this does not reflect many of the smaller wetland microsites. Since most of the units will have trees remaining after harvest, these wetlands may be avoided. In addition, much of the forested wetland in the Tongass National Forest is suitable for timber harvest (see the Forest Plan FEIS Part 1, p. 3-320).

AFA-4

Alternative 2 was designed using only ground-based logging systems to respond to some comments that helicopter logging is too expensive to consider in Southeast Alaska. Since that time, several helicopter-only sales have been sold and harvested on the Petersburg Ranger District. For that reason, the Interdisciplinary Team has modified the Selected Alternative to include some units that will be helicopter-logged and dropped some units to respond to other resource concerns.

The scheduling of the sales within the project area will provide opportunities for smaller sales interspersed with larger sales. The current plan is to harvest several small sales over a period of several years, with one larger sale in the middle of the period.

AFA-5

Your preference for a modification of Alternative 5 is noted. You are correct that Alternatives 2 and 5 have similar road costs and appraised values. However, other environmental and social concerns such as scenery and wildlife habitat led the development of the Selected Alternative. Please refer to our response to comment ADGC-8 for more discussion on this issue.

AFA-6

Any financial analysis done for an alternative is used more as a comparison rather than to determine the viability of a sale offered from this project. Since this information has already been disclosed to the public, it will enable the comparison to be the same between DEIS and FEIS. The economic test procedure to which you refer is still in the development stage. If it is available before the completion of the final EIS, it may be applied to this project in addition to the use of the Transaction Evidence Appraisal used for the DEIS. The units from the Selected Alternative are planned to be offered in multiple sale packages.

The flexibility of the utilization standards is decided when the sale is advertised and may or may not be an option for all of the sales associated with this project.

AFA-7

Your comment that 3 mmbf of volume per mile of road is considered optimum from an economic standpoint is noted.

AFA-8

Temporary roads were planned for areas where they would meet the intended use, are consistent with Forest Plan direction, and would not result in resource concerns. Proposed classified roads have been determined to need those design standards to meet long-term transportation needs for

the Forest, or for resource protection. The design standards will be reevaluated after the final road location has been surveyed.

AFA-9

Some of the areas proposed for helicopter logging could not be logged by ground-based systems without expensive road construction. The alternatives range from no helicopter logging (Alternatives 2 and 3) to using helicopter logging in some areas that could be accessed by roads (Alternative 4). The alternatives were developed to respond to varying degrees to the issues identified in the project. Some of the more economically favorable helicopter units from Alternative 5 are included in the Selected Alternative. These units are 88b, 90e, 109 110, 119, and 119a.

AFA-10

Your preference for the use of a nearby, existing LTF due to economic concerns is noted. No new log transfer facilities are proposed for any alternative.

AFA-11

Clearcut with reserves would meet the Forest Plan Marten Standard and Guideline if the reserve trees meet the criteria for size and numbers. The units with 20-30 percent retention are essentially clearcuts with reserves with those criteria. Alternative 5 uses this harvest treatment more than the other alternatives to be responsive to this concern. However, some of the units were in areas with more stringent scenery standards and guidelines due to the land use designation. Extensive use of the clearcut with reserves harvest treatment would not meet the standards and guidelines in those areas. Other units had higher amounts of retention in order to lessen the effects to other resources. We tried to address all resource concerns to varying degrees in all alternatives, rather than design an alternative around a single resource concern.

AFA-12

Your objection to the use of a reserve strategy is noted. During the discussions for the Mitkof Landscape Analysis, an option to place the Wrangell Narrows Small Old-growth Habitat Reserve on Woewodski Island was discussed. Because of the high deer habitat values, the present location was proposed and later incorporated into the Forest Plan. There is no difference between Option 1 and Option 2 for VCU 448. Please note that there is no criterion to meet a certain amount of tentatively suitable forest in the small Old-growth Habitat Reserve guidelines in the Forest Plan, Appendix K.

In VCU 452, the amount of productive old-growth in the reserve strategy is high because of the continuous forest that exists in this area. However, most of this productive old-growth is not suitable for timber production because of steep slopes (greater than 72 percent).

Your preference for Option 2 for the small old-growth habitat reserves is noted.

AFA-13

Except for changes to the small old-growth habitat reserves to meet Forest Plan criteria, no modifications to land use designations are proposed for this project. The modifications to the Wrangell Narrows Small Old-growth Habitat Reserve were done to meet Forest Plan criteria for a small old-growth habitat reserves, and not because of the Crystal Inventoried Roadless Area.

Response to Letter #15 - AFA

AFA-14

Instead of modifying Alternative 5, we decided to incorporate some of your suggestions along with other commentors' suggestions to design the Selected Alternative. Units from Alternative 5 included in the Selected Alternative include 88b, 90e, 109 110, 119, and 119a. Please also refer to our responses to comments AFA-8 and AFA-11.

AFA-14a

Units 81, 81a, and 82 are not included in the Selected Alternative.

AFA-14b

The loop road and units 121, 122, and 122a are included in the Selected Alternative.

AFA-14c

Two units were changed to 20-30 percent retention from 75 percent retention and two units are changed from 75 percent retention to 50-66 percent retention.

AFA-14d

Units 85 and 87 are not included in the Selected Alternative. Units 128 and 129 are not included in the Selected Alternative because of the amount of temporary road (more than one mile) that would be needed for access and the presence of high-value deer winter habitat.

AFA-14e

All temporary roads in Alternative 5 would be used. Parts of Roads 6280 and 6281 used to access Units 98 and 174 will be rebuilt for log hauling and then put into storage after use.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Received

OCT 30 2000

Tongass N.F.

OCT 20 2000

Reply To
Attn Of: ECO-088

00-045-AFS

Cynthia Sever
Tongass National Forest
648 Mission Street
Ketchikan, Alaska 99901

Dear Ms. Sever,

We have reviewed the draft Environmental Impact Statement (EIS) for the *Woodpecker Project Area* (CEQ #000281) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and §309 of the Clean Air Act. The draft EIS describes harvesting on 500 to 1850 acres and building up to 4.8 miles of permanent road (of which 1.8 miles would remain open following harvesting) to provide 6 to 27 million board feet of timber. Action alternatives also entail closing 10 miles of existing road to motorized vehicles, improving fish passage at five stream crossings, revegetating several eroding sites with alders, and creating recreational opportunities (the last two activities are included in all action alternatives except Alternative 3). Alternative 2 is identified as the preferred alternative.

We were pleased to find analysis or explicit recognition of issues of concern to us in this EIS. The draft EIS

- contains a full range of alternatives with varying levels of management activities and harvest,
- recognizes the economic and environmental costs of roads and proposes action alternatives which avoid building permanent roads,
- explicitly recognizes that the proposed building of an extension of Road 6282 to Road 6245 for harvesting as well as recreational purposes would not qualify under the CWA 404(f) silvicultural exemption,
- addresses inadequate fish passage at five stream crossings in the area, and
- discusses Essential Fish Habitat provisions of the Magnuson Stevens Act.

The draft EIS identifies Alternative 2 as the preferred alternative. Alternative 2 proposes the highest level of permanent road construction, leaves the largest number of permanent road miles built intact following harvesting, and has the second highest level of acres and board feet harvested of the four action alternatives presented in the EIS. We have rated the EIS, EC-2 (Environmental Concerns-Insufficient Information) due to the selection of a preferred alternative that has greater potential to affect hydrology, sediment delivery to streams, aquatic habitat, predation, and to fragment habitat. Moreover, the ability of the Forest Service to mitigate these impacts through road maintenance is limited with an \$8.4 billion maintenance and reconstruction

EPA-1

EPA-2

Letter #16 - USEPA

2

EPA-2 | backlog and current receipts of only about 20 percent of the annual funding needed to maintain the existing road system to current environmental and safety standards (Forest Service webpage).


EPA-3 | We agree with comments stated in a September 8, 2000 memo from Kevin Hanley of the State of Alaska Department of Environmental Conservation that Alternative 3 is clearly the most environmentally preferred and provides the highest appraised economic value of all action alternatives, that all alternatives should propose revegetating actively eroding sites, and that a barge LTF (Log Transfer Facility) should be employed in lieu of inwater log transfer at Woodpecker Cove LTF.

EPA-4 | We offer additional suggestions to improve the readability and the level of analysis found in the EIS. We recommend the following additions to the EIS:

- EPA-4 | • include a breakdown of acres proposed for harvesting for each alternative in the "Comparison of Alternatives" Table (Tables S-1 and 2-1),
- EPA-5 | • use methodology outlined in the Sediment Risk Assessment (Geier and Loggy 1995) to show predicted risk to fish habitat from sediment produced from proposed harvesting and road activities,
- EPA-6 | • state whether additional opportunities exist to address fish passage at stream crossings (beyond the five addressed in the EIS) both inside and in close proximity to the Woodpecker Project Area, and
- EPA-7 | • include quantitative information on fish habitat such as the ratio of riffles to pools for stream reaches and the amount of LWD (large woody debris) pieces per stream length.

Our rating and a summary of our comments will be published in the Federal Register. Enclosed please find a copy of the rating system used in our review for your reference. I encourage you to contact Chris Gebhardt of my staff at (206) 553-0253 if you have any questions. Thank you for the opportunity to review this draft EIS.

Sincerely,

For 

Richard B. Parkin
Geographic Implementation Unit

enclosures

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO -- Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC -- Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO -- Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU -- Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 -- Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Letter #16 - USEPA

Category 2 - - Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Environmental Protection Agency – Richard Parkin

EPA-1

Thank you for your comments. We did try to create a broad enough range of alternatives so that the effects of each could be compared.

EPA-2

We do not understand how your rating of EC-2 (Environmental Concerns - Insufficient Information) can be based on our selection of Alternative 2 as the preferred alternative. According to your rating system, this code refers to an EIS that does not include enough information “to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action.” Your comments specific to Alternatives 2 and 3 seem to indicate that you were able to assess the impacts of these alternatives. Your comments did not identify a new alternative to be analyzed.

Your statement that the preferred alternative (Alternative 2) has the “second highest level of acres and board feet harvested” is incorrect. Of the four action alternatives, Alternative 2 has the third highest level of acres in harvest units and board feet harvested. Alternative 4 has the second highest, and Alternative 5 proposes the greatest amount of harvest. Please refer to the Economics section (Issue 3) of Chapter 3, which discusses the amount of acres and volume within alternatives.

Your concerns about the road maintenance backlog on National Forest System lands are noted. We are proposing to put ten miles of road in the Woodpecker Project Area into storage to reduce the need for maintenance. Only 1.8 miles of new classified road would be added and would be located in an area that is more easily maintained.

EPA-3

Please refer to our responses to comments ADGC-7, 8, and 9.

EPA-4

Harvest unit acres have been included in the comparison table in Chapter 2 of the FEIS.

EPA-5

The sediment risk models that you recommend may be appropriate for use on large-scale projects. However, site-specific information to identify high-risk effects to fish habitat was gathered in the field and included mapping of streams within the Woodpecker Project Area. This field data collection resulted in gathering information about stream morphology, channel type, and fisheries habitat. This information was used to identify areas of higher risk for road building and unit location and allows the determination of the functionality or condition of a watershed's health. Watersheds in the Woodpecker Project Area were determined to be in good to excellent health based on field verified mapping assessments.

Response to Letter #16 - EPA

EPA-6

We have rewritten the discussion of fish passage to clarify that the DEIS identified all potential fish passage problems that were known at the time, and that all identified potential fish passage problems within the Woodpecker Project Area will be analyzed. The Petersburg Ranger District is completing a district-wide assessment of all fish passage structures. Any opportunities for fisheries enhancement will be prioritized and corrected, as funding is made available. This EIS deals only with projects within the Woodpecker Project Area.

Currently a contract to survey, design and reconstruct 29 structures on Mitkof Island with identified fish passage problems is in progress. This will include four of the five identified sites within the Woodpecker Project Area. Further analysis and interagency review identified the fifth site as having a lower priority than other sites on Mitkof Island since it involved only 30 square meters of upstream habitat. This is the second fish passage contract done on the Petersburg Ranger District. A contract on Kuiu Island corrected fish passage problems on 5 sites in 2000, and will correct 11 additional sites in 2001.

Additional opportunities to enhance water quality, and subsequently fisheries, include placing 10 miles of existing roads into storage by removing drainage structures and directing surface water off of the existing roads with water bars.

EPA-7

All streams within the Woodpecker Project Area have been field-verified and classified using the Region 10 Channel Type User Guide. Channel type inventories provide key information on fish habitat utilization, fish habitat capability, and fisheries enhancement options in surveyed watersheds. Channel types also provide information on suitable stream crossing locations and design criteria for road drainage structures. Channel types are used to evaluate potential sediment delivery and retention for cumulative watershed effects analysis.

Additional survey work was completed for the five identified fish passage opportunities within the project area to determine the amount of additional habitat available above the crossings. Both quantitative and qualitative information such as length and width, stream habitat, and the amount and size of pools and substrate were collected on these streams.



Ms. Lori Morgan
1951 Hartnell Ave. Apt. 3
Redding, CA 96002-5006



Morgan-1

I am disturbed that the preferred alternative, Alternative 2, looks like just another timber giveaway. The bad alternative would kill too many trees, ruin roadless areas, and turns some areas into a parking lot. There should be No commercial logging in my Tongass National Forest, and no new roads build in roadless areas. All old growth should get the maximum protection, not minimum protection. New roads will cause more auto-animal collisions, less wildlife diversity, and less forest cover. It is time to start saying NO New Logging!

To:

Patty Grantham
Petersburg District
Ranger, Attn: Woodpecker
Project Area, USDA
FOREST SERVICE
P.O. Box 1328
Petersburg, AK 99833

Response to Letter #17 - Morgan

Lori Morgan

Morgan-1

Your comments on the need to eliminate commercial logging on the Tongass National Forest are noted. Please also refer to our response to comment Denison-1 for a description of the variety of land use designations that the Forest Plan has allocated to National Forest System lands on the Tongass.

Appendix D

Project-specific Mitigation Measures

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Appendix D

Project-specific Mitigation Measures

I. General Mitigation Measures

These general measures may apply to all units and roads in a project area and/or they may apply to other portions of a project area. The source(s) of each general measure are listed after the measure in terms of individual Forest-wide Standards and Guidelines (see Chapter 4 of the Forest Plan) or BMPs (see Appendix C of the Forest Plan and Chapter 10 of FSH 2509.22, The Soil and Water Conservation Handbook). Specific mitigation measures that are applied to selected units and/or roads in a project are identified in the tables that follow the general measures.

Air Quality Protection: Design projects to control air pollution impacts and to ensure that the predicted emissions from all pollution sources do not exceed ambient air quality standards, as specified under the Alaska Administration Code, Title 18, Chapter 50; burning permits will be obtained from ADEC for all fire projects. (AIR 112)

Soil/Water Protection during Timber Sale Planning: Incorporate soil and water resource considerations into timber sale planning. Include site-specific considerations, site preparation, designating water quality protection needs on sale area maps, locating and designing landings for good drainage and dispersion of water, incorporating erosion control and timing responsibilities into the Operating Schedule, scheduling and enforcement of erosion control during and at completion of the timber sale, including non-recurring "C" provisions to protect soil and water resources in timber sale contracts, and seeking an environmental modification of the contract if new circumstances or conditions indicate that soil, water, or watershed damage may occur. Avoid road construction along unstable slopes, including slopes > 67%. (BMP 13.1, 13.2, 13.3, 13.4, 13.5, 13.10, 13.11, 13.12, 13.14, 13.17, and 13.18 and S&W112-I)

Soil/Water Protection during Road Development: Implement measures to reduce surface erosion and drainage interruption related to transportation including water barring and cross-draining roads using ditches and culverts to prevent water running long distances over roads, closure, and seeding and fertilizing cut-and-fill slopes. (BMPs 14.1, 14.2, 14.3, 14.5, 14.7, 14.8, 14.9, 14.10, 14.11, 14.12, and 14.19)

Soil/Water Protection during Road Management: Conduct road maintenance and snow removal operations to minimize disruption of road surfaces, embankments, ditches, and drainage facilities, and use road closures or other measures to keep road surface and road site erosion at low or background levels. (TRAN23-I, BMPs 14.20 and 14.23)

Management of Road Use to Reduce Erosion and Sedimentation: Control access and manage road use to reduce the risk of erosion and sedimentation from road surface disturbance especially during the higher risk periods associated with high runoff and spring thaw conditions. (BMP 14.22)

Introduction to Mitigation Measures

Temporary Road Obliteration: Obliterate temporary roads after use, remove or bypass drainage structures and install waterbars in appropriate places. (RIP2-II and BMPs 12.17 and 14.24)

Soil/Water Protection during Development of Rock Sources, LTFs, & Other Facilities: Implement measures to reduce surface erosion and other impacts on soils and water from gravel sources and quarries, LTFs, sort yards, and other facilities. (BMPs 14.18, 14.19, 14.25, 14.26, and 14.27)

Accidental Spills: Implement measures and plans to prevent the contamination of soil and water from accidental spills of petroleum products and hazardous substances. (BMP 12.8 and 12.9)

Heritage Site Discovery: Suspend work if a heritage site is discovered during project implementation. Authorize resumption of work only after consultation with the State Historic Preservation Office is complete.

Maximum Size of Created Openings: Limit created openings to a maximum size of 100 acres. (TIM114-IV)

Certification of Reforestation: Certify that every unit that receives a final harvest meets or surpasses the stocking guidelines and certification standards (FSH 2409.17) within 5 years. (TIM24)

Wetland Protection: Minimize the loss of all wetlands, but particularly the higher value wetlands (especially fens), and minimize the adverse impacts of land management activities on wetlands; follow Executive Order 11990 and the BMPs. (WET-I, WET-III, BMP 12.5)

Beach and Estuary Fringe Protection: Avoid harvest within the beach and estuary fringe; avoid road construction within this zone, except where no feasible alternative exists. (BEACH 2)

Marine Mammal Protection: Ensure that Forest Service permitted or approved activities are conducted in a manner consistent with the Marine Mammal Protection Act, the Endangered Species Act, and National Marine Fisheries Service regulations for approaching whales, dolphins, porpoises, seals, and sea lions. Site camps, LTFs, and other facilities at least 1 mile away from known Steller sea lion haulouts. (TE&S-I)

Protection of Sensitive Plant Species: If sensitive plants are found modify unit boundaries, roads, or other facilities to avoid or reduce impacts on U. S. Fish and Wildlife Service designated Candidate species and Species of Concern. (TE&S-III)

Protection of Bald Eagle Nest Trees/Other Sites and Timing of Activities: Avoid all activity, modify unit or road design, and/or limit timing of activities, near bald eagle nest trees, perch trees, and winter roost sites in accordance with Interagency Agreement established with the U. S. Fish and Wildlife Service. (WILD 112-V)

Introduction to Mitigation Measures

Roadside Cleanup: Provide for roadside cleanup of ground-disturbing activities in partial retention and retention areas. (VIS11-II)

II. Site-specific Mitigation Measures Incorporated into Unit and Road Design

The specific mitigation measures that are applied to selected units and/or roads in a project are identified in this section. The source(s) of each general measure are listed after the measure in terms of individual Forest-wide Standards and Guidelines (see Chapter 4 of the Forest Plan) or BMPs (see Appendix C of the Forest Plan and Chapter 10 of FSH 2509.22, The Soil and Water Conservation Handbook). The table following this list indicates to which units and/or roads each measure applies. See also Appendices B and C.

FISH, WATER, and SOILS

- F1 Riparian Buffers:** Establish no-harvest and selective cut buffers along streams and around lakes to protect riparian areas as defined by the Riparian Standards and Guidelines. Protect buffers from adjacent harvest activities (e.g., directional felling, split yarding, suspension requirements). (RIP2, BMP 12.6)
- F2 Directional Felling Along Buffers:** Trees identified for harvest will be felled to avoid riparian areas designated for "no commercial harvest" and stream courses. (RIP2-II)
- F3 Class III/IV Stream Protection:** Split yard and directionally fall trees away from Class III and IV streams without buffers where practicable. (RIP2-II)
- F4 Yarding Across Streams:** Fully suspend logs where yarding is to be done across streams or the full length of a stream or drainage. (RIP2-II)
- F5 Fish Passage:** Maintain fish passage at Class I and II stream road crossings using properly designed stream-crossing structures (consult the Aquatic Habitat Management Handbook, FSH 2609.24). (FISH112-IV)
- F6 Use of Bridges:** Install bridges at designated stream crossings to minimize the amount of sediment entering streams and/or to ensure good fish passage. (TRAN 214-II)
- F7 Instream Construction Timing Restrictions:** Implement timing restrictions for instream construction activities for the protection of anadromous and resident fish. (RIP2-II and BMPs 14.6, 14.10, 14.14, and 14.17)
- F8 Siting of Road-Stream Crossings:** Modify the location of road-stream crossings to correspond with stable stream reaches. (TRAN214-II)
- F9 Routing of Roads near Streams:** Design proposed road routes to avoid locations near fish-bearing streams where practicable. (TRAN214-II)

Introduction to Mitigation Measures

- F10 Routing of Roads through Wetlands and Other Sensitive Areas:** Modify location of Forest Development Roads to minimize impact to wetlands, floodplains, estuaries, and tidal meadows. (TRAN214-III)
- F11 Harvesting Timber in/near Wetlands and Floodplains:** Modify unit design or logging system to avoid or minimize damage to muskegs, other wetlands, or floodplains. (S&W112-I, BMP 12.4 and 12.5)
- F12 Management of Road Use to Reduce Erosion and Sedimentation:** Control access and manage road use to reduce the risk of erosion and sedimentation from road surface disturbance especially during the higher risk periods associated with high runoff and spring thaw conditions. (BMP 14.22)
- F13 Storm-proofing Roads:** Design system roads with oversized culverts, outfall riprap, armored dips adjacent to culverts, substantial ditch blocks, drivable waterbars, and/or other measures to prevent culvert failure or erosion during periods of inactivity. (TRAN22-I)
- F14 Road Storage:** Establish self-maintaining drainages across roads, remove bridges and reestablish natural drainage patterns, and establish vegetation cover on the road to prevent erosion during periods of inactivity. (TRAN22-I)
- F15 Avoid Harvesting Very High Hazard Soils:** Modify unit design to avoid very high mass movement areas, including slopes > 72%, unless approved by the Forest Supervisor or District Ranger, based on the results of an on-site slope stability analysis. (S&W112-I, BMP 13.5)
- F18 Suspension Requirements to Protect Soils:** Use partial- to full-suspension logging systems in areas with very high mass movement potential or McGilvery soils. (S&W112-I, BMP 13.9)
- F22 Watershed Rehabilitation:** Conduct rehabilitation activities where previous mass wasting threatens water quality or where degraded watershed conditions are identified. (S&W2-I, BMP 12.2 AND 12.3)
- F23 Fish Habitat Improvement or Restoration:** Conduct fish habitat improvement or restoration; includes improvements to stream banks and stream channel processes, large woody debris, and water quality/temperature. (FISH 112 - IVC, D, E, and F and FISH 22)

TIMBER

- T4 Minimize Windthrow Hazards through the following methods:** Irregularly shape unit boundaries; retain trees displaying windfirm characteristics; design windfirm buffers; and/or target trees or clumps susceptible to blowdown because of decay. (APPEND G, Pg-G28, & Table G-3, Pg G29)

Introduction to Mitigation Measures

WILDLIFE and THREATENED/ENDANGERED/SENSITIVE SPECIES

- W4 Reserves Under a Two-aged Harvest System:** Provide for greater habitat diversity on a stand level over time by leaving reserve trees (two-aged system) as a harvest prescription (see Appendix G to Forest Plan FEIS). (WILD112 - III)
- W6 Selection Harvest:** Provide for greater habitat diversity on a stand level over time by using the selection method (uneven-aged or group selection system) as a harvest prescription (see Appendix G to Forest Plan FEIS). (WILD112 - III)
- W7 Leaving Nonmerchantable Trees and Snags:** Provide for greater habitat diversity on a stand level over time by leaving most nonmerchantable trees and snags after harvest. (WILD112 - III)
- W8 Restrictions on Helicopter Yarding:** Modify helicopter yarding routes and/or timing of helicopter activity to avoid important wildlife habitats (e.g., great blue heron or active eagle nest sites). (WILD112-XII)
- W18 Protection of Waterfowl or Shorebird Concentrations:** Modify unit or road design to keep habitat changes as far from known waterfowl or shorebird concentrations and nesting areas as feasible (at least 330 feet). (WILD112-IX)
- W19 Timing of Activities and Disturbance of Waterfowl:** Minimize disturbance of waterfowl, by restricting development activities to periods when waterfowl are absent from the area. (WILD112-IX)
- W21 Protection of Heron Rookeries and Raptor Nests:** Protect active heron rookeries and raptor nests (bald eagle, northern goshawk and osprey are covered by other measures) by providing 600-foot windfirm buffers, where available. (WILD112-X)
- W22 Timing of Activities and Disturbance of Herons and Raptors during Nesting:** Minimize disturbance of heron rookeries and raptor nests, by restricting development activities to periods outside the active nesting season (generally March 1 to July 31). (WILD112-X)
- W28 Management of Marten Habitat:** Maintain important features of forest stand structure in harvest units in order to manage high value marten habitat according to Forest-wide Standard & Guideline WILD112-XVI, A, 2. (This applies to VCUs in higher risk biogeographic provinces). (WILD112-XVI)
- W33 Corridors Between Old-Growth Habitat Reserves:** Avoid harvest in order to maintain corridors of old-growth forest between old-growth habitat reserves and other natural setting LUDs at the landscape scale. (WILD112-XVIII)

Introduction to Mitigation Measures

RECREATION AND TOURISM

- R1 Access Restrictions for Recreation:** Close or restrict access on roads to maintain remoteness of areas after harvest (REC112-II)
- R2 Access Improvement for Recreation:** Open roads after project implementation to take advantage of opportunities created by new access. (REC112-II)
- R3 Recreation Enhancement:** Enhance existing and/or provide additional recreation activities, opportunities, and services, to meet demands. (REC112-II)

SCENERY

- V4 Reserves Under a Two-aged Harvest System:** Reduce visual contrast with adjacent areas by leaving reserve trees under a two-aged system as a harvest prescription (see Appendix G to Forest Plan FEIS). (VIS11-III)
- V6 Selection Harvest:** Reduce visual contrast with adjacent areas by using the selection method (uneven-aged system) as a harvest prescription (see Appendix G to Forest Plan FEIS). (VIS11 - III)
- V7 Leaving Nonmerchantable Trees:** Reduce visual contrast with adjacent areas by leaving most nonmerchantable trees after harvest. (VIS11 - III)
- V8 Modification of Unit Boundaries:** Modify unit boundaries to assure that the harvest unit meets the proposed VQO in partial retention and retention areas. (VIS11-II)
- V9 Treatment of Rock Sources:** Locate rock sources off the road along Visual Priority Routes, so that rock source development is not apparent from the road and/or use a landscape architect in the planning/design of rock pits. (VIS11-II)

SUBSISTENCE

- S2 Access Improvement for Subsistence:** Keep roads open after project implementation to address subsistence issues. (SUB-I)
- S3 Enhancement of Facilities:** Develop or enhance facilities for subsistence users (e.g., anchorages, shelters, turn outs). (SUB-I)

III. Mitigation Measures by Unit and Alternative

For each site-specific mitigation measure listed above, the table on the next pages indicates the units and alternatives to which the measure applies.

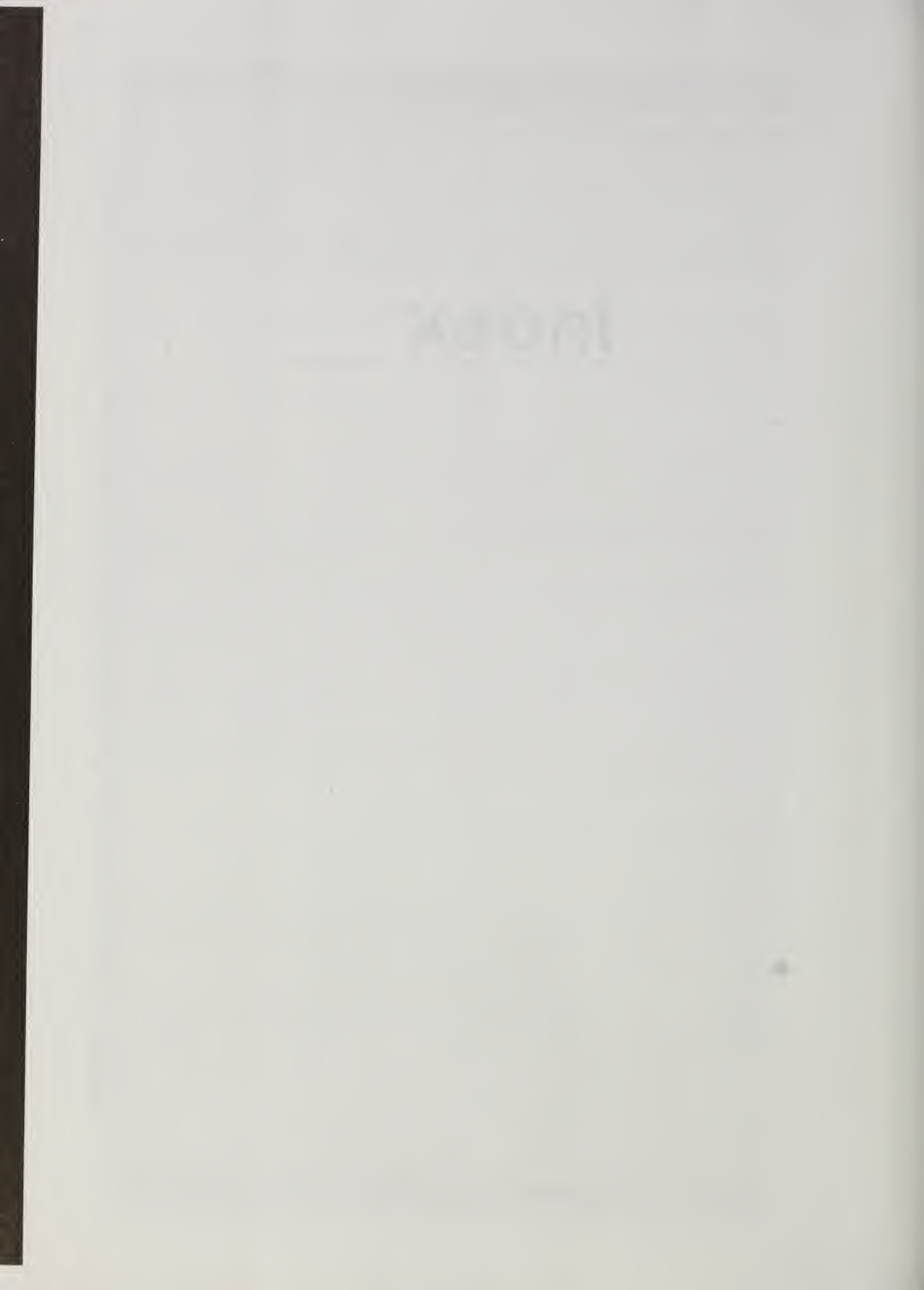
Mitigation Measures by Road, Recreation Project, and Watershed Improvement Project

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Mitigation Measures by Road, Recreation Project, and Watershed Improvement Project

Unit	A02	AI.3	AI.4	AI.5	AI.6	E1	E2	E3	E4	E5	E6	F7	F8	P9	F10	F11	F12	F13	F14	F15	F16	F18	F22	F23	T4	W4	W6	W7	W8	W18	W19	W21	W22	W28	W33	R1	R2	R3	V4	V6	V7	V8	V9	V11	S2	S3			
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150			X	X		X	X	X	X																																								
161a			X	X		X	X	X	X																																								
161a				X																																													
166a		X	X	X		X	X	X	X																																								
166a			X	X		X	X	X	X																																								
174		X	X	X		X	X	X	X																																								
174			X	X		X	X	X	X																																								
187			X	X		X	X	X	X																																								

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